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Superfund Records Center  
SITE: Western Sand & Gravel  
BREAK: 4.3  
OTHER: \_\_\_\_\_

**U.S. ENVIRONMENTAL PROTECTION AGENCY  
REGION I**

**HAZARDOUS WASTE MANAGEMENT DIVISION**

**FIVE-YEAR REVIEW (TYPE I-A)**

**WESTERN SAND AND GRAVEL SITE  
BURRILLVILLE, RHODE ISLAND**

March 1998

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### I. INTRODUCTION

#### *PURPOSE*

EPA Region I conducted this review pursuant to CERCLA Section 122(a), NCP Section 300.400(f)(4)(ii), and OSWER Directives 9355.7-02 (May 23, 1991) and 9355.7-02A (July 26, 1994). It is a statutory review. The purpose of the five-year review is to ensure that a remedial action remains protective of public health and the environment and is functioning as designed. This document will become part of the Site File. This review is applicable to a site at which response is ongoing. The last Five-Year Review was submitted on December 23, 1992.

### ***SITE CHARACTERISTICS***

Presented here is a brief history of the site. The Western Sand and Gravel site is located primarily in Burrillville, Rhode Island and partially in the town of North Smithfield. The site, owned by Western Sand and Gravel, Inc., was a sand and gravel quarry operation from 1953 until 1975. From 1975 to April 1979, a portion of the site was used for the disposal of liquid wastes including chemicals and septic waste. Contents of tank trucks were emptied directly into open lagoons and pits, none of which was lined with protective materials. Over time, some of the wastes penetrated the porous soil and contaminated the groundwater. After 1979, hazardous wastes were no longer accepted at the site.

In March 1980 USEPA conducted a chemical removal action at the site. A hydrogeologic and groundwater treatment feasibility study of the site was completed in December 1980 by Rhode Island Department of Environmental Management (RIDEM) contractors. The Western Sand and Gravel site was added to the USEPA Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List in October 1981. From November 1982 through July 1987, RIDEM contractors operated a groundwater recirculation system at the site.

A Remedial Investigation and Feasibility Study (RI/FS) was completed in May 1984 (A.D. Little, May 1984) by USEPA and RIDEM contractors. A USEPA Record of Decision (ROD) was signed on September 28, 1984, outlining the following remedial actions: provide water filters for homes with contaminated wells, install permanent alternate water supply to approximately 56 parcels of land, and additional studies. Residents with potentially affected wells were offered carbon filtration units for their domestic well water supplies by the potentially responsible parties (PRPs). A permanent alternate water system funded by the PRPs was constructed by USEPA. This work was considered the first operable unit at the site.

Additional studies by USEPA contractors concluded with a USEPA Record of Decision being signed on September 30, 1985. The remedial action selected (i.e., the second operable unit) included closing of the groundwater recirculation system, capping, fencing, post-closure maintenance and monitoring, and conducting a Groundwater Remedial Investigation/Feasibility Study (GRI/FS).

The remedial construction activities for the second operable unit at the site were completed in 1987 in accordance with a Consent Decree among the USEPA, RIDEM, and the Settling Defendants, June 3, 1987 (Consent Decree, 1987). Olin Corporation, on behalf of the settling Defendants, began field work for the GRI/FS in 1988. Except for the ongoing collection of additional bedrock data, the

GRI/FS was completed in October, 1990. EPA issued an addenda to both the GRI and FS portions of the report in November 1990 and January 1991, respectively.

On April 16, 1991, USEPA executed a Record of Decision for the third operable unit at the site. The third operable unit for the site addresses the groundwater contamination. The selected remedy consists of natural attenuation of contaminated groundwater with a contingency for active restoration, utilization of institutional controls, and implementation of a site monitoring program (described below). A Consent Decree between USEPA and the Settling Defendants was lodged on February 26, 1992. The 1992 Consent Decree relates to the third operable unit.

This review covers the third operable unit at the site.

## **II. DISCUSSION OF REMEDIAL OBJECTIVES: AREAS OF NONCOMPLIANCE**

### ***REMEDIAL OBJECTIVE***

The remedial objective of the third operable unit was to implement a response action which will prevent actual or threatened releases of hazardous substances from the Site from presenting an imminent and substantial endangerment to the public health or welfare or to the environment.

### ***DESCRIPTION OF REMEDY***

The remedy is the third Operable Unit (OU III) for the Site. The remedies selected in 1984 and 1985 and implemented from 1988 through 1990 reduced the immediate risk posed by groundwater contamination and reduced the source of contamination. The third Operable Unit, for which this review is being prepared, included three remedial measures:

Reliance on natural attenuation of contaminated groundwater with a contingency to perform active restoration. According to the hydrogeologic models, groundwater is expected to be restored to the interim cleanup levels in approximately 24 to 28 years. Active restoration, for which a work plan has been developed, will be implemented, according to the Record of Decision, if natural attenuation is not restoring the groundwater at a rate predicted by modeling or faster.

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Utilization of institutional controls to reduce the risk to public health from consumption of groundwater.

x

Implementation of a site monitoring program to include long term monitoring of the groundwater.

The interim cleanup levels for four indicator compounds have been established for the site to determine if natural attenuation is working as predicted by the model or faster. These compounds and cleanup levels are presented below:

|                   |        |
|-------------------|--------|
| Benzene           | 5 ug/l |
| Vinyl Chloride    | 2 ug/l |
| Trichloroethene   | 5 ug/l |
| Tetrachloroethene | 5 ug/l |

#### ***ARARs***

As a summary of the applicable or relevant and appropriate (ARAR) federal and state requirements that applied to the remedial action for the Site, the following environmental laws were evaluated to derive them:

#### **Chemical-Specific**

- Safe Drinking Water Act (SDWA) - Maximum Contaminant Levels (MCLs)
- Safe Drinking Water Act (SDWA) - Maximum Contaminant Level Goals (MCLGs)
- Clean Water Act (CWA) - Ambient Water Quality Criteria
- Rhode Island Rules and Regulations Pertaining to Public Drinking Water 9R46-13-DWS
- Rhode Island Water Quality Regulations for Water Pollution Control (R.I.G.L. 46-12, 42-17.1, 42-35)
- Rhode Island Pollutant Discharge Elimination System (R.I.G.L. 46-12, 42-17, 42 - 35)

### Location-Specific

- Clean Water Act, Section 404
- Federal Protection of Wetlands Executive Order
- Fish & Wildlife Coordination Act
- Fish & Wildlife Improvement Act of 1978
- Fish & Wildlife Conservation Act of 1980

### Action-Specific

- Clean Air Act - National Emission Standards for Hazardous Air Pollutants (NESHAPs)
  - OSHA Record Keeping, Reporting and Related Regulations
  - OSHA Health and Safety Standards
  - DOT Rules for Transportation of Hazardous Materials
  - Rhode Islands Air Pollution Control Regulations
  - Rhode Island Air Pollution Control Act
  - Rhode Island Air Toxic Regulations
  - Rhode Island Pollutant Discharge Elimination System Permit Regulations

### Others

- Rhode Island Groundwater Protection Act
- Rhode Island Draft Groundwater Classification Regulations
- EPA Risk Reference Dose
- EPA Carcinogen Assessment Group Potency Factors
- Threshold Limit Values

During the remedial design, a detailed ARARs analysis considering the specifics of design were performed to insure the remedy's compliance with ARARs.

### ***MONITORING SUMMARY***

Sampling has been performed during this review period on a quarterly basis from December 1992 through September 1997. Sampling was performed as per the Statement of Work of the 1992 Consent Decree and the *Site Monitoring Plan*, dated November 1992. On March 5, 1996, a revised sampling program was presented to U.S. EPA reducing the frequency and amount of wells sampled during a given year. This sampling program was approved by EPA (March 14, 1996) with minor modifications to the proposed plan. Beginning with the March 1996 quarterly sampling event, sampling was performed in accordance with the modified sampling program. During the September 1996 sampling round, however, monitoring wells from clusters I1, I2, I6, and II2 were not analyzed for volatile organics, as recommended in EPA's approval letter (an oversight on the part of the PRP's contractor). As this was the annual event, the wells from these clusters should have been sampled.

As a result, no volatile organic analysis were made from these four clusters during the 1996 year. However, when reviewing all data for these wells, the results of the most recent sampling (September 1997) showed that there was no change in concentrations of volatile compounds, and in fact, most of the compounds were non-detect. Therefore, it can be extrapolated that the missed round of sampling of these four well clusters showed no deviation from this trend.

An analysis of the data shows a very significant reduction in the frequency of compound detections, reductions in the maximum concentrations detected, and reductions in the aerial extent of the plume. For volatile organics, essentially all of the maximum concentrations have been detected in four well clusters (C4, C5, C6, and II3). These wells are closest and immediately downgradient of the capped area. Semivolatiles and metals show infrequent detections, with C5M consistently showing the most number of compounds detected. The immediately downgradient well cluster, II3, shows only infrequent detections at very low concentrations. A table summarizing the detected concentrations during this period is presented on Table 1. Tables 2 through 5 present a summary of the concentrations with the quarterly maximum detected concentrations of the four indicator parameters over this five year period. These results were used in the statistical calculations to evaluate natural attenuation.. Also enclosed are figures showing the extent of the volatile organic plumes for 1988-89, 1993-94, and 1995-96 (Figures 1, 2, and 3). As may be seen from these three figures, the groundwater volatile organics plume has dramatically decreased in aerial extent. The plume has been reduced to the area located between the site and the area immediately adjacent to the Tarkiln Brook. In addition, the 10 ppb and 100 ppb contour areas within the plume have decrease significantly and the 1,000 ppb plume area is now limited to only the C-5 well cluster.

#### ***EVALUATION OF NATURAL ATTENUATION REMEDY***

In February 1995, the first three year evaluation of data, prepared in accordance with the Site Monitoring Plan and Consent Decree Statement of Work, showed that the statistical test passed without considering outliers for the indicator compounds tetrachloroethene, trichloroethene, and vinyl chloride. The report made recommendations regarding treatment of outliers for the indicator compound benzene and a further recommendation regarding modification of the benzene theoretical curve based on new information derived from a recent review of the groundwater modeling assumptions and modeling parameters reported in the literature.

Subsequent to that evaluation, four consecutive quarters of benzene maximums at or below the theoretical curve had been achieved. However, for the period December 1995 through December 1996, three of the five quarters were above the theoretical curve for benzene. As a result, and consistent with Section III(A)(1)(a)(3), page 7 of the Consent Decree Statement of Work, another Periodic Evaluation of the data was completed and submitted to the agency in April 1997. That evaluation identified proposed changes to statistical tests and field parameters, both of which are consistent with the language and intent of the ROD. Additionally, other trend analyses of the data (least squares regression of maximum concentration over time) indicate that natural attenuation is occurring at the site consistent with the overall compliance schedule in the ROD. For the sampling period beginning with the December 1996 round, the maximum concentration for benzene exceeded the theoretical concentration of benzene for only one of the four quarterly samples.

At the time the ROD was issued in 1990, limited data were available on the concentration of the four indicator chemicals in the designated monitoring wells. Additionally, data necessary and sufficient to test the theoretical attenuation of the four indicator chemical curves were not available. Given these uncertainties, EPA and the PRP group agreed to relatively conservative methodologies for evaluating natural attenuation. The maximum concentration from all monitoring wells would be compared to the theoretical concentration at each time period. In addition, the Wilcoxon Rank Sum Test, the statistical method for evaluating natural attenuation, was structured such that attenuation of the four indicator chemicals must be occurring faster than the theoretical curve (rejecting the null hypothesis in favor of the alternative hypothesis that attenuation is occurring at a rate faster than predicted by the theoretical curve).

The seven years of monitoring since the 1990 ROD provides unequivocal evidence that natural attenuation is occurring as fast or faster than predicted by the theoretical attenuation curve. Figures 4, 5, 6, and 7 show this for benzene, tetrachloroethene, trichloroethene, and vinyl chloride, respectively. As demonstrated in the April 1997 Periodic Evaluation, monitoring data and the Wilcoxon Rank Sum support the hypotheses that TCE, PCE, and vinyl chloride are attenuating at a rate faster than predicted by the theoretical curve and benzene is attenuating at the rate predicted by the theoretical curve. As further evidence of the attenuation of benzene, least squares regression on logarithmically transformed data indicates that benzene is attenuating a statistically significant rate over time (Figure 8). Furthermore, the regression model predicts that the MCL of 5 ppb was achieved sometime in 1995. It should be noted that the regression equation provides a best fit for the entire data and that individual points are bounded by confidence intervals. While the equation may predict that 5 ppb was achieved in 1995, the upper confidence interval may be above the MCL. Nevertheless, the statistically significant regression equation provides evidence that natural attenuation is occurring at a rate consistent with the intent of the ROD.

Based on the statistical significance of both the Wilcoxon Rank Sum Test and least squares regression, both of which support hypothesis that natural attenuation is occurring at a rate consistent with the ROD, the PRP group has requested the following modification to the ROD. Application of the Wilcoxon Rank Sum Test will be modified such that the null hypothesis will be tested against the alternative hypothesis that attenuation is occurring at a rate slower than predicted by the theoretical curve. In addition, least squares regression with months since implementation as the dependent variable and the logarithm of the maximum concentration as the dependent variable will be used as an additional statistical test to evaluate natural attenuation. With this modification, the need for active remediation will be evaluated only if both of the following conditions are met:

1. In applying the Wilcoxon Rank Sum Test, the null hypothesis is rejected in favor of the alternative hypothesis that attenuation is occurring at a rate slower than predicted by the theoretical curve. This will occur if

  - a)

2. Least squares regression fails to identify a statistically significant negative slope at the 95 percent confidence level.

The above modifications are based on information presented in Periodic Evaluation No. 2, dated April 1997. This information has been reviewed by the RPM, internally within EPA, and by other interested parties. The RPM concurs that natural attenuation is occurring at a rate predicted by the theoretical attenuation curve or faster for all four indicator parameters and that the proposed modifications are consistent with the intent of the ROD.

#### ***FUTURE MONITORING PROGRAM***

Sampling will continue on a quarterly basis per the Statement of Work of the 1992 Consent Decree, the *Site Monitoring Plan*, dated November 1992, and the March 5, 1996, revised sampling program, approved with modifications by EPA on March 14, 1996.

### **III. RECOMMENDATIONS**

Based on the collected monitoring information over the previous five years, as presented above, and the statistical analysis of the results, it is apparent that the natural attenuation remedy continues to be performing well. Therefore, it is recommended that the natural attenuation remedy be allowed to continue as long as the four indicator parameters continue to decrease at a rate predicted by the theoretical curve or faster. This determination will be made using the modified Wilcoxon Rank Sum Test, as described above. Monitoring and institutional controls should also continue, with monitoring performed as described under Future Monitoring Program. These recommendations are consistent with the intent of the ROD.

### **IV. STATEMENT OF PROTECTIVENESS**

I certify that the remedies selected for this site remain protective of human health and the environment.

## **V. NEXT FIVE-YEAR REVIEW**

The next five-year review will be conducted in December 2002.

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Lynne A. Fratus, Remedial Project Manager  
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## **TABLES**

**TABLE 1**  
**SUMMARY OF DETECTED VOLATILE CONCENTRATIONS IN GROUNDWATER**  
**WESTERN SAND AND GRAVEL SITE**  
**BURRILVILLE, RHODE ISLAND**

|                       | Sep-92 | Dec-92 | Mar-93 | Jun-93 | Sep-93 | Dec-93 | Mar-94 | Jun-94 | Sep-94 | Dec-94 | Mar-95 | Jun-95 | Sep-95 | Dec-95 | Mar-96 | Jun-96 | Sep-96 | Dec-96 | Mar-97 | Jun-97 | Sep-97 | Dec-97 |    |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|
| <b>Location:</b>      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| <b>C1D</b>            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| 1,1,1-Trichloroethane | ND     | ND     | 1      | ND     | ND     | ND     | ND     | 1      | ND     | ND     | ND     | ND     | ND     | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |    |
| Methylene Chloride    | ND     | 1.2    | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA |
| Toluene               | ND     | 1      | ND     | ND     | ND     | ND     | ND     | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA |
| <b>C2S</b>            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| 1,1,1-Trichloroethane | ND     | 1      | ND     | ND     | ND     | ND     | ND     | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |    |
| <b>C2M</b>            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| Benzene               | 1      | ND     | NA     | NA     | ND     | NA     | NA     | NA     | NA     | ND     | NA |
| Toluene               | 2      | 1      | ND     | NA     | NA     | ND     | NA     | NA     | NA     | NA     | ND     | NA |
| Xylenes               | 2      | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA |
| <b>C2D</b>            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| 1,1,1-Trichloroethane | ND     | ND     | ND     | ND     | ND     | 0      | ND     | 1      | ND     | ND     | ND     | ND     | ND     | ND     | NA     | NA     | ND     | NA     | NA     | NA     | NA     | ND     | NA |
| 1,2-Dichloroethene    | ND     | 6      | ND     | ND     | 2      | 2      | 1      | ND     | ND     | 1      | ND     | ND     | ND     | ND     | NA     | NA     | ND     | NA     | NA     | NA     | NA     | ND     | NA |
| Trichloroethene       | ND     | 2      | ND     | ND     | ND     | 1      | ND     | ND     | ND     | 1      | ND     | ND     | ND     | ND     | NA     | NA     | ND     | NA     | NA     | NA     | NA     | ND     | NA |
| Vinyl Chloride        | ND     | 2      | ND     | NA     | NA     | ND     | NA     | NA     | NA     | NA     | ND     | NA |
| Toluene               | ND     | 1      | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA |
| Chloromethane         | ND     | ND     | ND     | 4      | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA |
| <b>C3S</b>            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| 1,2-Dichloroethene    | ND     | ND     | ND     | 2      | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA |
| Trichloroethene       | ND     | ND     | 1      | 1      | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA |
| Toluene               | 1      | 1      | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA |
| Xylenes               | ND     | 2      | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA |
| Vinyl Chloride        | ND     | ND     | ND     | 21     | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA |
| 1,1,1-Trichloroethane | ND     | 1      | ND     | ND     | ND     | ND     | ND     | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA |

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|                         | Sep-92 | Dec-92 | Mar-93 | Jun-93 | Sep-93 | Dec-93 | Mar-94 | Jun-94 | Sep-94 | Dec-94 | Mar-95 | Jun-95 | Sep-95 | Dec-95 | Mar-96 | Jun-96  | Sep-96 | Dec-96 | Mar-97 | Jun-97 | Sep-97 | Dec-97 |
|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|
| <b>Location:</b>        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |        |
| <b>C3M</b>              |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |        |
| Toluene                 | 1      | 3      | ND     | 2      | ND     | ND     | ND     | ND     | ND     | ND     | 2.7    | ND     | ND     | ND     | NA     | NA      | NA     | NA     | NA     | NA     | ND     | NA     |
| Xylenes                 | ND     | 3      | ND     | 3      | ND     | ND     | ND     | ND     | ND     | ND     | 3.3    | ND     | ND     | ND     | NA     | NA      | NA     | ND     | NA     | NA     | NA     | ND     |
| Benzene                 | ND     | 1      | ND     | 1      | ND     | ND     | ND     | ND     | ND     | ND     | 0.77   | ND     | ND     | ND     | NA     | NA      | NA     | ND     | NA     | NA     | NA     | ND     |
| <b>C3D</b>              |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |        |
| 1,2-Dichloroethene      | ND     | 2      | 4      | 3      | ND     | ND     | ND     | 1      | ND     | ND     | ND/1.5 | 2      | ND     | ND     | NA     | NA      | NA     | ND     | NA     | NA     | NA     | ND     |
| Trichloroethene         | 1      | 1      | 3      | 2      | ND     | ND     | ND     | 1      | ND     | ND     | ND     | ND     | ND     | ND     | NA     | NA      | NA     | ND     | NA     | NA     | NA     | ND     |
| 1,1,1-Trichloroethane   | ND     | ND     | ND     | ND     | 1      | ND     | ND     | 1      | ND     | ND     | ND     | 3      | ND     | ND     | NA     | NA      | NA     | ND     | NA     | NA     | NA     | ND     |
| <b>C4S</b>              |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |        |
| 1,1,1-Trichloroethane   | 10     | 10     | 63     | 270    | 11     | 9      | 25     | 34     | 12     | 20     | 13     | 19     | 5      | 4.5    | 43     | 36      | 43     | 51     | 62     | 63     | 9.3    | 3.2    |
| 1,1-Dichloroethane      | ND     | 1      | 6      | 18     | 1      | 1      | 5      | 10     | 3      | 3      | 7      | 7      | ND     | 2.1    | 12     | 18      | 4.9    | 4.8    | 20     | 23     | 2.7    | 0.6    |
| 1,1-Dichloroethene      | ND     | ND     | ND     | 2      | ND     | ND     | 1      | ND     | 1.4    | ND      | ND     | ND     | 1.0    | 1.2    | ND     | ND     |
| 1,2-Dichloroethene      | ND     | 7      | 89     | 110    | 4      | 3      | 52     | 130    | 22     | 12     | 89     | 67     | 3      | 11     | 62     | 200     | 16     | 6.7    | 140    | 230    | 14.0   | 3.5    |
| Benzene                 | ND     | 2      | 1      | 20     | 1      | 1      | 2      | 1      | 1      | 1      | ND     | 1      | ND     | ND     | ND     | ND      | ND     | ND     | 0.93   | 2.3    | ND     | ND     |
| Chloroform              | ND     | ND     | ND     | 7      | ND     | ND     | 1      | ND     | ND     | ND     | ND     | 1      | ND     | ND     | ND     | ND      | ND     | 0.64   | 0.60   | 4.2    | 4.7    | ND     |
| Ethylbenzene            | ND     | 2      | 2      | 100    | 3      | ND     | 4      | 2      | 2      | ND     | ND     | 2      | ND     | ND     | ND     | ND      | ND     | ND     | ND     | 6.5    | 17     | ND     |
| Methylene Chloride      | ND     | 1.3    | 1.7    | ND      | 2.8    | ND     | ND     | ND     | ND     | ND     |
| Tetrachloroethene       | 2      | 3      | 14     | 19     | 1      | 1      | 6      | 14     | 3      | 3      | 9      | 7      | ND     | 2.4    | 13     | 20      | 3.9    | 2.3    | 17     | 19     | 2.3    | 1.4    |
| Toluene                 | ND     | 2      | 2      | 220    | ND     | ND     | 5      | 3      | 2      | ND      | ND     | 0.78   | 3.4    | 17     | 0.64   | ND     |
| Trichloroethene         | 1      | 1      | 10     | 28     | 1      | 1      | 4      | 10     | 3      | 2      | 7      | 7      | ND     | 1.2    | 11     | 13      | 3.4    | 2.2    | 10     | 13     | ND     | ND     |
| Xylenes                 | ND     | 4      | 3      | 230    | 2      | ND     | 6      | 4      | 4      | ND     | ND     | 3      | ND     | ND     | ND     | ND      | ND     | ND     | 7.8    | 30     | ND     | ND     |
| Chlorobenzene           | ND     | ND     | ND     | 1      | ND      | ND     | ND     | ND     | ND     | ND     | ND     |
| Vinyl Chloride          | ND     | ND     | ND     | 2      | ND      | ND     | ND     | ND     | ND     | ND     | ND     |
| Chloroethane            | ND     | ND     | ND     | 2      | ND      | ND     | ND     | ND     | ND     | ND     | ND     |
| cis-1,3-Dichloropropene | ND     | ND     | ND     | 1      | ND      | ND     | ND     | ND     | ND     | ND     | ND     |
| <b>C4M</b>              |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |        |
| 1,2-Dichloroethene      | ND     | ND     | 2      | ND     | 2.8/2.7 | ND     | ND     | 1.7    | 1.5    | ND     | ND     |

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|                       | Sep-92 | Dec-92 | Mar-93 | Jun-93 | Sep-93 | Dec-93 | Mar-94 | Jun-94 | Sep-94 | Dec-94 | Mar-95 | Jun-95 | Sep-95 | Dec-95 | Mar-96  | Jun-96 | Sep-96  | Dec-96 | Mar-97 | Jun-97 | Sep-97 | Dec-97 |     |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|---------|--------|--------|--------|--------|--------|-----|
| <b>Location:</b>      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |         |        |        |        |        |        |     |
| Trichloroethene       | 1      | ND     | 2      | 1      | ND     | ND     | ND     | 1      | ND      | ND     | 2.8/2.8 | 0.71   | ND     | 1.8    | 0.76   | ND     | ND  |
| Methylene Chloride    | ND      | 1.8    | ND      | ND     | ND     | ND     | ND     | ND     | ND  |
| Toluene               | ND     | 1      | ND     | 1      | ND      | ND     | ND      | ND     | 0.77   | ND     | 2.1    | ND     | ND  |
| Xylenes               | ND     | 2      | ND      | ND     | ND      | ND     | ND     | ND     | 1.8    | ND     | ND  |
| 1,1,1-Trichloroethane | ND     | 1      | ND      | ND     | ND      | ND     | ND     | ND     | ND     | ND     | ND  |
| <b>C4D</b>            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |         |        |        |        |        |        |     |
| 1,1,1-Trichloroethane | 1      | ND     | 1      | 1      | 1      | ND     | 1      | 1      | ND      | ND     | ND      | ND     | ND     | ND     | ND     | ND     | ND  |
| 1,1-Dichloroethane    | 2      | 1      | 1      | 2      | 2      | 2      | 2      | 2      | 2      | 3      | 2      | 2      | 1      | ND     | 1.9     | 1.7    | 1.8     | 1.0    | 2.1    | 1.9    | 2.8    | 1.9    |     |
| 1,2-Dichloroethene    | ND     | 3      | 3      | 4      | 3      | ND     | 1      | 3      | 2      | ND     | 1      | 1      | ND     | ND     | 1.2     | 3.1    | 2       | ND     | 1.8    | 1.1    | 1.2    | ND     |     |
| Benzene               | ND     | 1      | ND      | ND     | ND      | ND     | ND     | ND     | ND     | ND     |     |
| Chlorobenzene         | 4      | 3      | 1      | ND     | 4      | 5      | 3      | 3      | 6      | 5      | 3      | 4      | 3      | 2.1    | 2.4     | 2.6    | 7.4     | 3.6    | 6.3    | 5.6    | 15.0   | 9.7    |     |
| Ethylbenzene          | ND     | ND     | ND     | ND     | 2      | 1      | ND     | ND     | 2      | 1      | ND     | ND     | ND     | ND     | ND      | ND     | ND      | ND     | 0.84   | ND     | 2.3    | ND     |     |
| Methylene Chloride    | ND      | ND     | ND      | ND     | ND     | ND     | ND     | ND     |     |
| Tetrachloroethene     | ND     | ND     | ND     | 1      | ND      | ND     | ND      | ND     | ND     | ND     | ND     | ND     |     |
| Toluene               | ND     | 2      | ND      | ND     | ND      | ND     | 0.75   | ND     | ND     | 0.61   | ND  |
| Trichloroethene       | 3      | 1      | 3      | 4      | 2      | ND     | 1      | 3      | 3      | 1      | 1      | 2      | 1      | ND     | 0.90    | 2.7    | 2.9     | ND     | 1.6    | 0.70   | 0.65   | ND     |     |
| Vinyl Chloride        | ND      | 1.1    | ND      | 0.97   | 1.0    | 1.0    | ND     | 0.59   | ND  |
| Xylenes               | ND     | 2      | ND     | 2      | ND     | ND     | ND     | ND     | ND      | ND     | ND      | ND     | ND     | ND     | ND     | 2.0    | ND  |
| <b>C5S</b>            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |         |        |        |        |        |        |     |
| 1,1,1-Trichloroethane | 72     | 97     | 230    | 170    | 120    | 150    | 150    | 130    | 190    | 63     | 71     | 95     | 130    | 97     | 54/49   | 21     | 42      | 21     | 24     | 8.7    | 56     | 77     |     |
| 1,1-Dichloroethane    | 28     | 36     | 70     | 45     | 27     | 100    | 51     | 53     | 79     | 21     | 20     | 37     | 70     | 48     | 12/12   | 1.3    | 8.6     | 3.6    | 5.9    | ND     | 15.0   | 28     |     |
| 1,1-Dichloroethene    | 1      | ND     | ND     | 2      | ND     | 3      | 1      | 2      | ND     | ND     | ND     | 2      | 2      | 1.0    | ND      | ND     | ND      | ND     | ND     | ND     | ND     | ND     | 1.0 |
| 1,2-Dichloroethene    | ND     | 150    | 500    | 270    | 341    | 732    | 310    | 291    | 470    | 65     | 86     | 160    | 371    | 290    | 52/50   | 4.7    | 54      | 14     | 30     | ND     | 88.0   | 241.1  |     |
| Carbon Tetrachloride  | ND      | ND     | ND      | ND     | ND     | ND     | ND     | ND     |     |
| Chloroform            | 3      | ND     | 16     | 3      | 2      | 3      | 1      | 3      | 4.8    | ND     | 1      | 2      | 6      | 3.8    | 1.5/1.5 | ND     | 0.95    | ND     | 1.3    | ND     | 2.6    | 6.0    |     |
| Tetrachloroethene     | 8      | 5      | 22     | 12     | ND     | 12     | 10     | 12     | 15     | 5      | 5      | 8      | 9      | 6.4    | 3.2/3.2 | 1.4    | 2.6     | 1.6    | 2.6    | 1.3    | 3.6    | 4.3    |     |
| Toluene               | 5      | ND      | ND     | ND      | 0.73   | ND     | ND     | ND     | ND     |     |
| Trichloroethene       | 7      | 7      | 30     | 13     | 10     | 34     | 11     | 14     | 27     | 5      | 5      | 12     | 17     | 12     | 2.3/2.6 | ND     | 2.8     | ND     | 1.5    | ND     | 3.3    | ND     |     |
| Benzene               | 2      | ND      | ND     | ND      | ND     | ND     | ND     | ND     | ND     |     |

**TABLE 1**  
**SUMMARY OF DETECTED VOLATILE CONCENTRATIONS IN GROUNDWATER**  
**WESTERN SAND AND GRAVEL SITE**  
**BURRILVILLE, RHODE ISLAND**

|                          | Sep-92 | Dec-92 | Mar-93 | Jun-93 | Sep-93 | Dec-93 | Mar-94 | Jun-94 | Sep-94 | Dec-94 | Mar-95 | Jun-95  | Sep-95 | Dec-95  | Mar-96 | Jun-96 | Sep-96 | Dec-96  | Mar-97 | Jun-97 | Sep-97 | Dec-97 |     |
|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|---------|--------|--------|--------|---------|--------|--------|--------|--------|-----|
| <b>Location:</b>         |        |        |        |        |        |        |        |        |        |        |        |         |        |         |        |        |        |         |        |        |        |        |     |
| Methylene Chloride       | ND      | ND     | 1.1     | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     | ND  |
| Ethylbenzene             | 1      | ND      | ND     | ND      | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     | ND  |
| Xylenes                  | 6      | ND      | ND     | ND      | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     | ND  |
| 1,4-Dichlorobenzene      | ND     | ND     | 13     | ND     | ND     | ND     | ND     | ND     | 6/ND   | ND     | ND     | ND      | ND     | ND      | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     | ND  |
| Chloroethane             | ND     | ND     | ND     | ND     | 2      | 3      | ND     | 2      | ND     | ND     | ND     | ND      | ND     | ND      | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     | 1.5 |
| Vinyl Chloride           | ND     | 2      | ND     | ND     | ND      | 2      | 2       | 1.3    | ND     | ND     | ND      | ND     | ND     | ND     | ND     | ND  |
| Chloromethane            | ND     | 8.9    | ND     | ND     | ND      | ND     | ND      | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     | ND  |
| Chloroethane             | ND     | 1.5     | 2.3    | 1.6     | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     | ND  |
| Trans-1,2-Dichloroethene | ND      | ND     | ND      | ND     | ND     | ND     | ND      | ND     | ND     | ND     | 0.68   | ND  |
| <b>C5M</b>               |        |        |        |        |        |        |        |        |        |        |        |         |        |         |        |        |        |         |        |        |        |        |     |
| 1,1,1-Trichloroethane    | 27     | 13     | 21     | 3      | ND     | 3      | 3      | 6      | 26     | 8      | 6      | 10      | ND     | 23/23   | 1.5    | 2.4    | 25     | 0.67/ND | ND     | ND     | 4.2    | 3.0    |     |
| 1,1,2-Trichloroethane    | ND      | ND     | ND      | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     | ND  |
| 1,1-Dichloroethane       | 100    | 25     | 17     | 3      | 14     | 16     | 6      | 9      | 76     | 59     | 10     | 34      | 7      | 67/70   | 1.5    | 4.4    | 38     | 1.4/ND  | ND     | ND     | 24     | 12     |     |
| 1,1-Dichloroethene       | ND     | 1      | ND     | ND     | ND     | ND     | ND     | 1      | 4      | 1      | 2      | 1       | ND     | 3.3/3.2 | ND     | ND     | 3.8    | ND      | ND     | ND     | 1.1    | ND     |     |
| 1,2-Dichloroethane       | ND     | 2      | ND     | ND     | ND     | ND     | ND     | 1      | 3      | 2      | 1      | 1       | ND     | 3.1/3.1 | ND     | ND     | 3.7    | ND      | ND     | ND     | 2.1    | 1.3    |     |
| 1,2-Dichloroethene       | ND     | 60     | 57     | 9      | ND     | 11     | 16     | 34     | 96     | 54     | 48     | 83      | 4      | 120/130 | 3.3    | 16     | 120    | 4.7/5   | ND     | ND     | 24     | 24     |     |
| 1,2-Dichlorobenzene      | 9      | 2      | 2      | 1      | 1      | 2      | 1      | 1      | 5      | 4      | 2      | 2.2/3.1 | ND     | 7.0/7.0 | ND     | 0.99   | 5.1    | 0.42/ND | ND     | ND     | 4.0    | 2.7    |     |
| 1,4-Dichlorobenzene      | ND     | ND     | 1      | ND     | 1      | ND     | ND     | ND     | ND/1.5 | 1      | ND     | ND/6.9  | ND     | 1.6/1.6 | ND     | ND     | 1.2    | ND      | ND     | ND     | 1.1    | ND     |     |
| 2-Butanone               | ND     | 13     | 1.3/ND | ND     | ND      | ND     | ND      | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     |     |
| 4-Methyl-2-Pentanone     | ND      | ND     | ND      | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     |     |
| Acetone                  | ND      | ND     | ND      | ND     | ND     | ND     | 21/21   | ND     | ND     | ND     | ND     |     |
| Acrolein                 | ND      | ND     | ND      | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     |     |
| Benzene                  | 21     | 6      | 4      | 1      | ND     | 5      | 2      | 3      | 7      | 5.5    | 3      | 5       | 1      | 9.9/9.9 | ND     | 0.88   | 10     | ND      | ND     | ND     | ND     | 8.1    |     |
| Chlorobenzene            | 120    | 41     | 34     | 6      | 28     | 32     | 12     | 19     | 82     | 73     | 21     | 46      | 9      | 91/97   | 1.9    | 7.3    | 68     | 2.8/3   | ND     | ND     | 74     | 30     |     |
| Chloroform               | ND     | 2      | 2      | 1      | ND     | ND     | ND     | 2      | 4      | ND     | ND     | 1       | ND     | 3.8/3.8 | ND     | ND     | 4.5    | ND      | ND     | ND     | 1.2    | 0.97   |     |
| Chloromethane            | ND     | 1      | ND     | ND     | ND      | ND     | ND      | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     |     |
| Ethylbenzene             | 220    | 67     | 45     | 9      | 76     | 70     | 22     | 23     | 159    | 130    | 33     | 76      | 13     | 150/160 | 2.4    | 10     | 110    | 4.3/5   | ND     | ND     | 110    | ND     |     |
| Methylene Chloride       | ND     | 2      | 6      | ND     | 58     | ND     | ND     | 5      | ND     | ND     | ND     | ND      | ND     | 7.1/8.1 | ND     | 4.7    | ND     | ND      | ND     | ND     | ND     | ND     |     |
| Tetrachloroethene        | ND     | 1      | 2      | 1      | ND     | 1      | 1      | 1      | 2      | 1      | 1      | 1       | ND     | 2.4/2.5 | 0.68   | 0.59   | 2.0    | ND      | ND     | ND     | 1.2    | 0.69   |     |
| Toluene                  | 610    | 270    | 250    | 43     | 430    | 330    | 110    | 165    | 820    | 450    | 180    | 230     | 58     | 670/720 | 12     | 76     | 490    | 23/24   | ND     | 1.0    | 440    | ND     |     |

**TABLE 1**  
**SUMMARY OF DETECTED VOLATILE CONCENTRATIONS IN GROUNDWATER**  
**WESTERN SAND AND GRAVEL SITE**  
**BURRILVILLE, RHODE ISLAND**

|                           | Sep-92 | Dec-92 | Mar-93 | Jun-93 | Sep-93 | Dec-93 | Mar-94 | Jun-94 | Sep-94 | Dec-94 | Mar-95 | Jun-95 | Sep-95 | Dec-95  | Mar-96 | Jun-96 | Sep-96 | Dec-96 | Mar-97 | Jun-97 | Sep-97 | Dec-97 |      |
|---------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| <b>Location:</b>          |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |        |        |        |      |
| Trans-1,3-Dichloropropene | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND   |
| Trichloroethene           | ND     | 1      | 3      | 1      | 1      | ND     | 1      | 5      | 6      | ND     | 1      | ND     | ND     | 5.3/5.4 | ND     | 1.3    | ND     | ND     | ND     | ND     | ND     | 3.2    | 1.0  |
| Vinyl Chloride            | 53     | ND     | 7      | 2      | 12     | ND     | ND     | 11     | 76     | 80     | 4      | 55     | 1      | 78/99   | ND     | 1.7    | 53     | 1.5/1  | ND     | ND     | ND     | 11     | 5.2  |
| Xylenes                   | 610    | 185    | 140    | 23     | 180    | 190    | 67     | 68     | 475    | 390    | 100    | 230    | 37     | 430/460 | 7.6    | 36     | 330    | 13/14  | ND     | ND     | ND     | 280    | ND   |
| Carbon Tetrachloride      | ND     | ND     | 2      | ND     | ND     | ND     | ND     | ND     | ND/56  | ND     | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND   |
| Chloroethane              | ND     | 1.65   | 2      | ND     | ND     | ND     | 5.4/5.4 | ND     | ND   |
| 1,3-Dichlorobenzene       | ND     | 1.5/ND | ND     | ND/71  | ND     | 1.7/1.7 | ND     | ND   |
| <b>C5D</b>                |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |        |        |        |      |
| 1,1,1-Trichloroethane     | 2      | 1      | 1      | ND     | ND     | ND     | ND     | 1      | ND     | ND     | ND     | ND     | 1      | 0.74    | 0.57   | ND     | ND   |
| 1,1-Dichloroethane        | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND   |
| Chloroform                | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | 0.50   | ND   |
| Tetrachloroethene         | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | 0.54 |
| Toluene                   | ND     | 1      | ND     | 1      | ND     | ND     | ND     | ND      | ND     | ND     | ND     | 0.77   | ND     | ND     | ND     | ND     | ND   |
| <b>C6S</b>                |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |        |        |        |      |
| 1,1,1-Trichloroethane     | 1      | 1      | 2      | ND     | 1      | ND     | 1      | 1      | 1      | ND     | ND     | ND     | ND     | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND   |
| 1,1-Dichloroethane        | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND   |
| 1,2-Dichloroethene        | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND   |
| Ethylbenzene              | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND   |
| Methylene Chloride        | ND     | 1.1/1.0 | ND     | ND   |
| Tetrachloroethene         | 2      | 5      | 4      | 3      | 1      | 4      | 2      | 2      | 1      | 2      | 2      | 1      | 1      | 2.1/1.8 | 0.99   | 1.9    | 0.98   | 0.66   | 0.81   | 1.5    | 0.81   | ND     | ND   |
| Toluene                   | ND     | 1      | ND     | 2      | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND   |
| Trichloroethene           | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND   |
| Xylenes                   | ND     | ND     | ND     | 2      | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND   |
| Chlorobenzene             | 1      | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND   |
| Benzene                   | ND     | ND     | ND     | 1      | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND   |
| <b>C6M</b>                |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |        |        |        |      |
| Toluene                   | ND     | 3      | 1      | ND      | ND     | ND     | ND     | 0.60   | ND     | ND     | ND     | ND     | ND   |
| Xylenes                   | ND     | 5      | ND      | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND   |

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**WESTERN SAND AND GRAVEL SITE**  
**BURRILVILLE, RHODE ISLAND**

|                       | Sep-92 | Dec-92 | Mar-93 | Jun-93 | Sep-93 | Dec-93 | Mar-94 | Jun-94 | Sep-94 | Dec-94 | Mar-95 | Jun-95 | Sep-95 | Dec-95 | Mar-96 | Jun-96 | Sep-96 | Dec-96 | Mar-97 | Jun-97    | Sep-97 | Dec-97 |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|--------|--------|
| <b>Location:</b>      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |           |        |        |
| Tetrachloroethene     | ND     | 0.66   | ND     | ND     | ND     | ND     | 0.70   | 0.58/0.63 | ND     | ND     |
| Methylene Chloride    | ND     | 1.1    | ND     | ND     | ND     | ND     | 3.6    | ND        | ND     | ND     |
| Chloroform            | ND     | 1      | ND        | ND     | ND     |
| Chloromethane         | ND     | ND     | ND     | 1      | ND        | ND     | ND     |
| <b>C6D</b>            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |           |        |        |
| Toluene               | 1      | 3      | ND     | 0.83   | ND        | ND     | ND     |
| Benzene               | ND     | 1      | ND        | ND     | ND     |
| Xylenes               | ND     | 3      | ND        | ND     | ND     |
| Tetrachloroethene     | ND     | 0.54   | 0.56      | 0.88   | 0.69   |
| Methyltertbutyl Ether | ND        | ND     | ND     |
| <b>I1S</b>            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |           |        |        |
| Toluene               | 1      | NA     | ND     | NA        | NA     | NA     |
| <b>I1M</b>            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |           |        |        |
| Toluene               | 1      | NA     | ND     | NA        | ND     | NA     |
| Carbon Tetrachloride  | ND     | NA     | ND     | NA     | ND     | NA     | 0.74   | NA     | ND     | NA     | ND     | NA     | ND     | NA        | NA     | ND     |
| <b>I1D</b>            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |           |        |        |
| Toluene               | 1      | NA     | ND     | NA     | 1      | NA     | ND     | NA     | ND     | NA     | ND     | NA     | ND     | NA        | NA     | 0.70   |
| <b>I2S</b>            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |           |        |        |
| Trichloroethene       | ND     | 1      | ND     | 1      | ND     | ND     | ND     | NA     | NA     | NA     | NA     | NA     | NA        | ND     | NA     |
| 1,1,1-Trichloroethane | ND     | ND     | ND     | ND     | ND     | ND     | 0.67   | 0.52   | ND     | ND     | ND     | ND     | ND     | ND     | NA     | NA     | NA     | NA     | NA     | NA        | NA     | ND     |
| Methylene Chloride    | ND     | 1.3    | NA     | NA     | NA     | NA     | NA     | NA        | NA     | ND     |
| <b>I2M</b>            |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |           |        |        |
| Toluene               | ND     | 1      | ND     | NA     | NA     | NA     | NA     | NA     | NA        | ND     | NA     |
| Chloroform            | ND     | ND     | 1      | ND     | NA     | NA     | NA     | NA     | NA     | NA        | ND     | NA     |
| 1,1,1-Trichloroethane | ND     | ND     | ND     | ND     | ND     | 1      | 0.66   | 0.82   | ND     | ND     | ND     | ND     | ND     | ND     | NA     | NA     | NA     | NA     | NA     | NA        | NA     | ND     |
| Methylene Chloride    | ND     | 1.9    | NA     | NA     | NA     | NA     | NA     | NA        | NA     | ND     |

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**WESTERN SAND AND GRAVEL SITE**  
**BURRILVILLE, RHODE ISLAND**

|                       | Sep-92 | Dec-92 | Mar-93 | Jun-93 | Sep-93 | Dec-93 | Mar-94 | Jun-94 | Sep-94 | Dec-94 | Mar-95 | Jun-95 | Sep-95 | Dec-95 | Mar-96 | Jun-96 | Sep-96 | Dec-96 | Mar-97 | Jun-97 | Sep-97 | Dec-97 |  |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| <b>Location:</b>      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
| I2D                   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
| Toluene               | ND     | 2      | ND     | NA     | NA     | NA     | NA     | NA     | NA     | ND     | NA     |  |
| Xylene                | ND     | 2      | ND     | NA     | NA     | NA     | NA     | NA     | NA     | ND     | NA     |  |
| Benzene               | ND     | 1      | ND     | NA     | ND     |  |
| 1,1,1-Trichloroethane | ND     | ND     | ND     | ND     | ND     | ND     | 1      | 1      | ND     | ND     | ND     | ND     | ND     | ND     | NA     | ND     |  |
| Methylene Chloride    | ND     | 1.3    | NA     | NA     | NA     | NA     | NA     | NA     | ND     |  |
| I3S                   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
| 1,1,1-Trichloroethane | ND     | ND     | 1      | ND     | 1      | 2      | ND     | ND     | ND     | ND     | ND     | ND     | 2      | 9.7    | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| 1,1-Dichloroethane    | ND     | 2      | ND     | ND     | 4      | 6      | ND     | ND     | ND     | ND     | ND     | ND     | 4      | 18     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| 1,2-Dichloroethene    | ND     | 2      | ND     | ND     | ND     | 2      | ND     | ND     | ND     | ND     | ND     | ND     | 9      | 38     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| Benzene               | ND     | 1.8    | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| Chlorobenzene         | ND     | 1      | ND     | ND     | ND     | 2      | ND     | ND     | ND     | ND     | ND     | ND     | 3      | 9.5    | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| Chloroform            | ND     | 2      | ND     | 1      | ND     | ND     | ND     | 0.93   | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| Tetrachloroethene     | ND     | 0.93   | NA     | NA     | ND     | NA     | NA     | NA     | 0.51   | NA     |  |
| Trichloroethene       | ND     | 1      | ND     | ND     | ND     | 1      | ND     | ND     | 1      | 1      | ND     | ND     | ND     | 1.6    | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| Vinyl Chloride        | ND     | 4      | 25     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| Xylenes               | ND     | 2      | ND     | 2      | 5.5    | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| Methylene Chloride    | ND     | 3.1    | NA     | NA     | ND     | NA     | NA     | NA     | 3.2    | NA     |  |
| I3M                   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
| 1,1-Dichloroethane    | ND     | ND     | ND     | ND     | ND     | ND     | 2      | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| Benzene               | ND     | ND     | ND     | ND     | ND     | ND     | 0.55   | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| Chlorobenzene         | ND     | ND     | ND     | ND     | ND     | ND     | 0.73   | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| Trichloroethene       | ND     | ND     | ND     | ND     | ND     | ND     | 2      | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| 1,1,1-Trichlorethane  | ND     | ND     | ND     | ND     | ND     | ND     | 0.84   | 0.83   | ND     | ND     | ND     | ND     | ND     | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| 1,2-Dichloroethene    | ND     | ND     | ND     | ND     | ND     | ND     | 2.1    | ND     | NA     | NA     | ND     | NA     | NA     | NA     | ND     | NA     |  |
| Tetrachloroethene     | ND     | 0.53   | NA     | NA     | 0.66   | NA     | NA     | NA     | 1.1    | NA     |  |
| Methylene Chloride    | ND     | 1.8    | NA     | NA     | 3.7    | NA     | NA     | NA     | 3.0    | NA     |  |

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**WESTERN SAND AND GRAVEL SITE**  
**BURRILVILLE, RHODE ISLAND**

|                       | Sep-92 | Dec-92 | Mar-93 | Jun-93 | Sep-93 | Dec-93 | Mar-94 | Jun-94 | Sep-94 | Dec-94 | Mar-95 | Jun-95 | Sep-95 | Dec-95 | Mar-96 | Jun-96 | Sep-96 | Dec-96 | Mar-97 | Jun-97 | Sep-97 | Dec-97 |    |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|
| <b>Location:</b>      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| I3D                   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| 1,1,1-Trichloroethane | 1      | 1      | 3      | 1      | 1      | 1      | ND     | 1      | 1      | 1      | 1      | 1      | 1      | 0.66   | NA     | NA     | 0.71   | NA     | NA     | NA     | ND     | NA     |    |
| 1,1-Dichloroethane    | 2      | 3      | 4      | 2      | 1      | 3      | ND     | 2      | 3      | 2      | 3      | 2      | 3      | 2.3    | NA     | NA     | 2.0    | NA     | NA     | NA     | 1.5    | NA     |    |
| 1,2-Dichloroethene    | ND     | 3      | 5      | 3      | 2      | 3      | ND     | 3      | 3      | 3      | 3      | 3      | 3      | 2.3    | NA     | NA     | 2.5    | NA     | NA     | NA     | 1.9    | NA     |    |
| Benzene               | 1      | 1      | 1      | 1      | 1      | 1      | ND     | 1      | 1      | 1      | ND     | 1      | 1      | 0.62   | NA     | NA     | 0.74   | NA     | NA     | NA     | NA     | ND     |    |
| Chlorobenzene         | 4      | 3      | 3      | 1      | 1      | 2      | ND     | 1      | 2      | 1      | 1      | 1      | 2      | 1.4    | NA     | NA     | 1.1    | NA     | NA     | NA     | 1.2    | NA     |    |
| Chloroform            | ND     | ND     | 1      | ND     | NA     | NA     | NA     | 0.53   | NA     | NA     | NA     | 0.75   | NA     |    |
| Tetrachloroethene     | ND     | 1      | 1      | 1      | 1      | 1      | ND     | 1      | 1      | 1      | 1      | 1      | 1      | 0.90   | NA     | NA     | 1.2    | NA     | NA     | NA     | NA     | 1.5    | NA |
| Trichloroethene       | 3      | 3      | 5      | 3      | 1      | 4      | ND     | 3      | 4      | 3      | 3      | 3      | 3      | 2.9    | NA     | NA     | 3.2    | NA     | NA     | NA     | NA     | ND     | NA |
| Vinyl Chloride        | ND     | ND     | 1      | ND     | NA     | NA     | 0.61   | NA     | NA     | NA     | NA     | ND     | NA |
| Xylenes               | ND     | 2      | 2      | ND     | ND     | ND     | ND     | ND     | ND     | 2      | ND     | ND     | ND     | ND     | NA     | NA     | ND     | NA     | NA     | NA     | NA     | ND     | NA |
| Toluene               | ND     | 1      | ND     | NA     | NA     | ND     | NA     | NA     | NA     | NA     | ND     | NA |
| Methylene Chloride    | ND     | 2.2    | NA     | NA     | ND     | NA     | NA     | NA     | NA     | 3.2    | NA |
| I4M                   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| Tetrachloroethene     | ND     | NA     | 1      | NA     | 2.3    | NA     | 4.4    | NA |
| I4D                   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| 1,2-Dichloroethane    | ND     | NA     | 1      | NA     | ND     | NA     | ND     | NA |
| 1,1,1-Trichloroethane | ND     | NA     | ND     | NA     | ND     | NA     | 0.62   | NA     | ND     | NA     | ND     | NA     | ND     | NA     | ND     | NA |
| Tetrachloroethene     | ND     | NA     | 1      | NA     | 1.6    | NA     | 1.2    | NA |
| I5M                   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| Toluene               | ND     | NA     | 1      | NA     | ND     | NA     | ND     | NA |
| Trichloroethene       | 1      | NA     | 1      | NA     | ND     | NA     | ND     | NA |
| Chloromethane         | ND     | NA     | 1      | NA     | ND     | NA     | ND     | NA |
| Xylenes               | ND     | 2      | ND     | ND     | NA     | ND     | NA |
| I6S                   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| Benzene               | ND     | 1      | ND     | NA     | NA     | NA     | NA     | NA     | NA     | ND     | NA |

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**BURRILVILLE, RHODE ISLAND**

|                  |                       | Sep-92 | Dec-92 | Mar-93 | Jun-93 | Sep-93 | Dec-93 | Mar-94 | Jun-94 | Sep-94 | Dec-94 | Mar-95 | Jun-95 | Sep-95 | Dec-95 | Mar-96 | Jun-96 | Sep-96 | Dec-96 | Mar-97 | Jun-97 | Sep-97 | Dec-97 |    |    |
|------------------|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|----|
| <b>Location:</b> |                       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |    |
| I6M              | Toluene               | 1      | 1      | ND     | NA     | NA     | NA     | NA     | NA     | NA     | ND     | NA     |    |    |
|                  | Trichloroethene       | 1      | 1      | 1      | 1      | ND     | ND     | ND     | 1      | 0.55   | ND     | ND     | ND     | 1      | ND     | NA     | ND     | NA |    |
| I6D              | 1,1-Dichloroethane    | 1      | ND     | NA     | ND     | NA |    |
|                  | 1,2-Dichloroethene    | ND     | 1      | ND     | ND     | 1      | ND     | NA     | ND     | NA |    |
|                  | Chlorobenzene         | 1      | ND     | NA     | ND     | NA |    |
|                  | Trichloroethene       | 2      | 1      | 1      | 1      | 1      | 1      | ND     | ND     | 0.52   | ND     | ND     | ND     | ND     | ND     | NA     | ND     | NA |    |
|                  | Toluene               | 1      | 2      | ND     | ND     | ND     | 1      | ND     | NA     | ND | NA |
|                  | Benzene               | ND     | 1      | ND     | NA     | ND     | NA |    |
|                  | Xylenes               | ND     | 3      | ND     | NA     | ND     | NA |    |
|                  | 1,1,1-Trichloroethane | ND     | ND     | ND     | ND     | ND     | 1      | ND     | NA     | ND     | NA |    |
|                  | Methylene Chloride    | ND     | 1      | NA     | NA     | NA     | NA     | NA     | NA     | ND     | NA |    |
| I7S              | Toluene               | 1      | NA     | ND     | NA     | ND     | NA |    |
| I7D              | 1,1,1-Trichloroethane | ND     | NA     | ND     | NA     | ND     | NA     | 0.51   | NA     | ND     | NA     | ND     | NA     | ND     | NA     | ND | NA |
|                  | Trichloroethene       | ND     | NA     | 1      | NA     | ND | NA |
|                  | Tetrachloroethene     | ND     | NA     | 3.5    | NA |    |
| I8S              | Trichloroethene       | 1      | NA     | 1      | NA     | ND     | NA     | ND     | NA     | 0.5    | NA     | ND     | NA     | ND     | NA     | ND     | NA |    |
|                  | 1,1-Dichloroethane    | 1      | NA     | ND     | NA     | ND     | NA |    |
|                  | Toluene               | 1      | NA     | 2      | NA     | ND     | NA     | ND     | NA |    |
| I8M              | 1,1-Dichloroethane    | 3      | NA     | ND     | NA     | ND     | NA |    |
|                  | Trichloroethene       | 3      | NA     | ND     | NA     | ND     | NA |    |
|                  | Benzene               | 1      | NA     | ND     | NA     | ND     | NA |    |

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**WESTERN SAND AND GRAVEL SITE**  
**BURRILVILLE, RHODE ISLAND**

|                         | Sep-92 | Dec-92 | Mar-93 | Jun-93 | Sep-93 | Dec-93 | Mar-94 | Jun-94 | Sep-94 | Dec-94 | Mar-95 | Jun-95 | Sep-95 | Dec-95 | Mar-96  | Jun-96  | Sep-96 | Dec-96 | Mar-97 | Jun-97 | Sep-97 | Dec-97 |    |
|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|--------|--------|--------|--------|----|
| <b>Location:</b>        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |         |        |        |        |        |        |        |    |
| Toluene                 | 3      | NA     | ND     | NA     | NA      | NA      | NA     | NA     | NA     | NA     | NA     | ND     | NA |
| Xylenes                 | 4      | NA     | ND     | NA     | NA      | NA      | NA     | NA     | NA     | NA     | NA     | ND     | NA |
| 1,1,1-Trichloroethane   | ND     | NA     | 1      | NA     | 1      | NA     | ND     | NA     | ND     | NA     | ND     | NA     | ND     | NA     | NA      | NA      | NA     | NA     | NA     | NA     | NA     | ND     | NA |
| <b>I8D</b>              |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |         |        |        |        |        |        |        |    |
| 1,2-Dichloroethene      | ND     | NA     | 1      | NA     | ND     | NA     | NA      | NA      | NA     | NA     | NA     | NA     | NA     | ND     | NA |
| Trichloroethene         | 4      | NA     | 1      | NA     | ND     | NA     | NA      | NA      | NA     | NA     | NA     | NA     | NA     | NA     | ND |
| 1,1,1-Trichloroethane   | ND     | NA     | ND     | NA     | ND     | NA     | 0.6    | NA     | ND     | NA     | ND     | NA     | ND     | NA     | NA      | NA      | NA     | NA     | NA     | NA     | NA     | NA     | ND |
| <b>II2S</b>             |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |         |        |        |        |        |        |        |    |
| 1,1,1-Trichloroethane   | ND     | NA     | ND     | NA     | ND     | NA     | 0.59   | NA     | ND     | NA     | 1      | NA     | ND     | NA     | NA      | NA      | NA     | NA     | NA     | NA     | NA     | ND     | NA |
| <b>II2M</b>             |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |         |        |        |        |        |        |        |    |
| 1,1,1-Trichloroethane   | ND     | NA     | ND     | NA     | ND     | NA     | 1.1    | NA     | ND     | NA     | ND     | NA     | ND     | NA     | NA      | NA      | NA     | NA     | NA     | NA     | NA     | ND     | NA |
| <b>II3S</b>             |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |         |        |        |        |        |        |        |    |
| 1,1,1-Trichloroethane   | 5      | 7      | 21     | 550    | 2      | 17     | 19     | 1      | 20     | 26     | 34     | 81     | 1      | 18     | 130/120 | 170/140 | 19     | 71     | 58     | 120    | 7.1    | 16     |    |
| 1,1-Dichloroethane      | ND     | 1      | 8      | 38     | ND     | 3      | 4      | 20     | 4      | 4      | 10     | 14     | ND     | 2.9    | 31/29   | 37/34   | 6.3    | 15     | 19     | 55     | 4.4    | 4.4    |    |
| 1,1-Dichloroethene      | ND     | ND     | ND     | 8      | ND     | 2      | ND     | 2.7/2  | 2.5/2   | ND      | ND     | ND     | 1.4    | ND     | ND     | ND     |    |
| <b>II3M</b>             |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |         |        |        |        |        |        |        |    |
| 1,2-Dichloroethene      | ND     | 5      | 86     | 201    | 3      | 5      | 22     | 4      | 22     | 14     | 62     | 76     | 2      | 7.4    | 64/52   | 57/36   | 46     | 75     | 98     | 330    | 33.0   | 10     |    |
| Benzene                 | ND     | 1      | ND     | 59     | ND     | ND     | 1      | 2      | ND     | ND     | ND     | ND     | ND     | 1.4/1  | 7.4/7   | ND      | ND     | ND     | ND     | ND     | 2.9    | ND     | ND |
| Chlorobenzene           | ND     | ND     | 1      | 48     | ND     | ND     | ND     | 29     | ND     | ND     | ND     | ND     | ND     | ND     | 24/24   | 29/29   | ND     | ND     | 0.77   | 4.6    | ND     | ND     |    |
| <b>II3L</b>             |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |         |        |        |        |        |        |        |    |
| Chloroform              | ND     | ND     | ND     | 7      | ND     | ND     | ND     | ND     | ND     | ND     | 1      | 1      | ND     | 2.6    | 3.6/2   | 2.2/2   | ND     | 2.5    | 3.8    | ND     | ND     | 0.54   |    |
| Ethylbenzene            | ND     | ND     | ND     | 510    | ND     | ND     | ND     | 12     | ND      | 22/25   | ND     | 1.1    | ND     | 24     | ND     | ND     |    |
| Tetrachloroethene       | 4      | 2      | 8      | 18     | 1      | 1      | 3      | 1      | 3      | 2      | 7      | 9      | ND     | 1.5    | 4.4/5   | 7.2/7   | 7.4    | 2.8    | 3.2    | 7.3    | 5.2    | 1.3    |    |
| Toluene                 | ND     | 2      | 1      | 78     | ND      | 2.0/2   | ND     | 1.1    | 0.94   | 38     | ND     | ND     |    |
| Trichloroethene         | 3      | 1      | 10     | 39     | ND     | 1      | 2      | 3      | 3      | 2      | 8      | 8      | ND     | 0.99   | 6.3/7   | 12/13   | 4.8    | 4.1    | 4.0    | 11     | 1.4    | ND     |    |
| Vinyl Chloride          | ND     | ND     | 7      | 10     | ND     | ND     | 1      | 3      | ND     | ND     | ND     | ND     | ND     | ND     | 17/20   | 17/18   | ND     | 1.0    | 0.62   | 4.4    | ND     | ND     |    |
| Xylenes                 | ND     | 2      | 2      | 740    | ND     | ND     | 2      | 7      | ND     | ND     | ND     | ND     | ND     | ND     | 7.75/8  | 78/65   | ND     | ND     | 1.4    | 51     | ND     | ND     |    |
| cis-1,3-Dichloropropene | ND     | ND     | 1      | 3      | ND      | ND      | ND     | ND     | ND     | ND     | ND     | ND     |    |
| 1,3-Dichlorobenzene     | ND     | ND     | 1      | ND      | ND      | ND     | ND     | ND     | ND     | ND     | ND     |    |

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**BURRILVILLE, RHODE ISLAND**

|                       | Sep-92 | Dec-92 | Mar-93 | Jun-93 | Sep-93 | Dec-93 | Mar-94 | Jun-94 | Sep-94 | Dec-94 | Mar-95 | Jun-95 | Sep-95 | Dec-95 | Mar-96 | Jun-96 | Sep-96 | Dec-96    | Mar-97    | Jun-97 | Sep-97 | Dec-97 |     |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|-----------|--------|--------|--------|-----|
| <b>Location:</b>      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |           |           |        |        |        |     |
| 1,2-Dichlorobenzene   | ND     | ND     | 1      | ND     | 0.26      | ND        | ND     | ND     | ND     | ND  |
| Bromomethane          | ND     | ND     | ND     | 170    | ND        | ND        | ND     | ND     | ND     | ND  |
| 1,2-Dichloroethane    | ND     | ND     | ND     | 2      | ND        | ND        | ND     | ND     | ND     | ND  |
| Bromoform             | ND     | ND     | ND     | 1      | ND        | ND        | ND     | ND     | ND     | ND  |
| Methylene Chloride    | ND     | 1.7    | ND     | 1.0    | ND     | ND        | ND        | ND     | ND     | ND     | 2.0 |
| Acetone               | ND     | 3      | NA/5   | ND     | ND     | ND        | ND        | ND     | ND     | ND     | ND  |
| <b>II3M</b>           |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |           |           |        |        |        |     |
| 1,1,1-Trichloroethane | 1      | 3      | 22     | ND     | 1      | ND     | 1      | 260    | ND        | 0.71      | ND     | ND     | ND     | ND  |
| 1,1-Dichloroethane    | 5      | 13     | 65     | ND     | 3      | 5      | 41     | 31     | 5      | 3      | 13     | 2      | ND     | 1.1    | 11     | 13     | 1.7    | 2.6/2.5   | 10        | 12     | 3.4    | 2.1    |     |
| 1,1-Dichloroethene    | ND     | 6      | ND        | ND        | ND     | ND     | ND     | ND  |
| 1,2-Dichloroethane    | ND        | 0.95      | ND     | ND     | ND     | ND  |
| 1,2-Dichloroethene    | ND     | 2      | ND     | ND     | 3      | ND     | ND     | 110    | 5      | ND     | ND     | 2      | ND     | ND     | 1.2    | ND     | 2.8    | ND        | ND        | ND     | ND     | ND     | ND  |
| Benzene               | ND     | 1      | 3      | ND     | ND     | ND     | 2      | 23     | 1      | 1      | 1      | ND     | ND     | ND     | 1.1    | 0.84   | ND     | ND        | 2.2       | 1.1    | ND     | ND     |     |
| Chlorobenzene         | 2      | 20     | 94     | 3      | 3      | 6      | 47     | 24     | 5      | 3      | 10     | 2      | 1      | 1.1    | 7.5    | 32     | 4.8    | 3.9/3.8   | 17        | 32     | 12.0   | 3.8    |     |
| Ethylbenzene          | ND     | 10     | 44     | 2      | 2      | 3      | 31     | 40     | 2      | 2      | 6      | ND     | ND     | ND     | 7.3    | 14     | 1.0    | 4.8/4.7   | 24        | 16     | 2.0    | ND     |     |
| Tetrachloroethene     | 2      | 2      | 2      | ND     | 1      | 1      | ND     | 17     | 1      | ND        | ND        | ND     | ND     | ND     |     |
| Toluene               | 1      | 69     | 220    | 2      | ND     | 3      | 90     | ND     | ND     | ND     | 1      | ND     | ND     | ND     | 8.9    | ND     | ND     | 24/24     | 130       | 32     | 0.66   | ND     |     |
| Trichloroethene       | 11     | 1      | ND     | ND     | 1      | ND     | ND     | 19     | 4      | 1      | 1      | 2      | ND     | ND     | 0.66   | 0.56   | 1.9    | ND        | ND        | ND     | ND     | ND     |     |
| Vinyl Chloride        | 12     | ND     | ND     | ND     | 6      | 4      | ND     | 18     | 9      | 3      | 2      | 3      | ND     | ND     | 1.2    | 1.9    | 1.8    | 0.68/0.66 | 0.69      | ND     | 0.53   | ND     |     |
| Xylenes               | 1      | 22     | 110    | 4      | 2      | 2      | 60     | 120    | 2      | 2      | 4      | ND     | ND     | ND     | 8.1    | 8.2    | ND     | 10/10     | 60        | 22     | 1.4    | ND     |     |
| Methylene Chloride    | 2      | ND        | ND        | ND     | ND     | ND     |     |
| Bromomethane          | ND     | ND     | ND     | 2      | ND        | ND        | ND     | ND     | ND     |     |
| Chloroform            | ND     | 3.2    | ND        | ND        | ND     | ND     | ND     |     |
| 1,2-Dichlorobenzene   | ND        | 0.35/0.35 | 1.2    | 0.57   | ND     |     |

**TABLE 1**  
**SUMMARY OF DETECTED VOLATILE CONCENTRATIONS IN GROUNDWATER**  
**WESTERN SAND AND GRAVEL SITE**  
**BURRILVILLE, RHODE ISLAND**

|                       | Sep-92 | Dec-92 | Mar-93 | Jun-93 | Sep-93 | Dec-93 | Mar-94 | Jun-94 | Sep-94 | Dec-94 | Mar-95 | Jun-95 | Sep-95 | Dec-95 | Mar-96 | Jun-96 | Sep-96  | Dec-96 | Mar-97 | Jun-97 | Sep-97 | Dec-97 |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|
| <b>Location:</b>      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |
| <b>II3D</b>           |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |
| 1,1,1-Trichloroethane | ND     | 2      | 1      | ND     | ND     | 1      | ND      | ND     | ND     | ND     | ND     | ND     |
| 1,1-Dichloroethane    | 29     | 29     | 29     | 13     | 16     | 21     | 9      | 4      | 9      | 5      | 3      | 5      | 6      | 3.9    | 1.8    | 1.6/2  | 4.3/3.8 | 1.2    | 0.63   | ND     | 3.3    | 2.8    |
| Benzene               | ND     | 3      | 1      | ND     | 1      | 1      | 1      | ND     | 1      | 1      | ND      | ND     | ND     | ND     | ND     | ND     |
| Chlorobenzene         | 65     | 73     | 60     | 21     | 22     | 25     | 11     | 5      | 7      | 5      | 3      | 4      | 5      | 3.2    | 1.1    | 1.0/ND | 3.1/3   | 1.4    | 0.70   | 0.94   | 5.5    | 5.7    |
| Ethylbenzene          | 31     | 21     | 26     | 8      | 14     | 10     | 4      | 2      | 3      | 2      | ND      | ND     | ND     | ND     | ND     | ND     |
| Tetrachloroethylene   | ND     | 0.67   | ND     | ND      | ND     | ND     | ND     | ND     | ND     |
| Toluene               | 170    | 117    | 93     | ND     | 7      | ND     | 1      | ND      | 0.79   | ND     | ND     | ND     | ND     |
| Trichloroethylene     | ND      | ND     | ND     | ND     | ND     | ND     |
| Vinyl Chloride        | ND     | 1      | ND     | ND     | ND     | ND     | 1*     | ND     | ND     | ND      | ND     | ND     | ND     | ND     | ND     |
| Xylenes               | 68     | 56     | 51     | 7      | 10     | 7      | 4      | 2      | 2      | 2      | ND      | ND     | ND     | ND     | ND     | ND     |
| Methylene Chloride    | ND     | 1*     | 1.7    | ND     | ND/5.0  | ND     | ND     | ND     | ND     | ND     |
| 1,2-Dichloroethane    | ND     | 1      | ND      | ND     | ND     | ND     | ND     | ND     |
| Acetone               | ND     | 3*     | ND     | ND     | ND      | ND     | ND     | ND     | ND     | ND     |
| 2-Butanone            | ND     | 1*     | ND     | ND     | ND      | ND     | ND     | ND     | ND     | ND     |
| <b>II4M</b>           |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |
| Toluene               | 1      | NA     | ND     | NA     | NA     | NA     | NA      | NA     | NA     | NA     | NA     | NA     |
| <b>II5S</b>           |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |
| 1,1,1-Trichloroethane | ND     | NA     | ND     | NA     | ND     | NA     | 0.71   | NA     | ND     | NA     | ND     | NA     | ND     | NA     | NA     | NA     | NA      | NA     | NA     | NA     | ND     | NA     |
| <b>II5M</b>           |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |
| 1,1,1-Trichloroethane | ND     | NA     | ND     | NA     | ND     | NA     | 0.92   | NA     | ND     | NA     | ND     | NA     | 1      | NA     | NA     | NA     | NA      | NA     | NA     | NA     | ND     | NA     |
| <b>II5D</b>           |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |
| 1,1,1-Trichloroethane | ND     | NA     | ND     | NA     | ND     | NA     | 0.67   | NA     | ND     | NA     | ND     | NA     | 4      | NA     | NA     | NA     | NA      | NA     | NA     | NA     | ND     | NA     |
| <b>II6S</b>           |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |
| Toluene               | 1      | ND     | ND     | NA     | NA     | NA     | NA      | NA     | NA     | NA     | ND     | NA     |

**TABLE 1**  
**SUMMARY OF DETECTED VOLATILE CONCENTRATIONS IN GROUNDWATER**  
**WESTERN SAND AND GRAVEL SITE**  
**BURRILVILLE, RHODE ISLAND**

|                       | Sep-92 | Dec-92 | Mar-93 | Jun-93 | Sep-93 | Dec-93 | Mar-94 | Jun-94 | Sep-94 | Dec-94 | Mar-95 | Jun-95 | Sep-95 | Dec-95 | Mar-96 | Jun-96 | Sep-96 | Dec-96 | Mar-97 | Jun-97 | Sep-97 | Dec-97 |    |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|
| <b>Location:</b>      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| <b>I16M</b>           |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| 1,2-Dichloroethene    | 1      | NA     | ND     | NA     | ND     | NA     |    |
| Trichloroethene       | ND     | NA     | ND     | NA     | ND     | NA     | 0.58   | NA     | ND     | NA     | ND     | NA     | ND     | NA     | ND     | NA |
| Toluene               | ND     | NA     | 1.3    | NA     | ND     | NA     | ND     | NA |
| <b>I16D</b>           |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| Benzene               | ND     | ND     | 1      | NA     | ND     | NA     | ND     | NA |
| Toluene               | ND     | ND     | 2      | NA     | ND     | NA     | ND     | NA     | ND     | NA     | 2      | NA     | ND     | NA     | ND     | NA |
| 1,1,1-Trichloroethane | ND     | ND     | ND     | NA     | ND     | NA     | 0.58   | NA     | ND     | NA     | ND     | NA     | ND     | NA     | ND     | NA |
| Xylene                | ND     | ND     | ND     | NA     | ND     | NA     | ND     | NA     | ND     | NA     | 2      | NA     | ND     | NA     | ND |
| 1,2-Dichloroethene    | ND     | NA     | ND     | NA     | ND     | NA     | ND     | NA     | 0.53   | NA |
| <b>I17S</b>           |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| 1,1,1-Trichloroethane | ND     | ND     | ND     | ND     | ND     | ND     | 0.52   | ND     | ND     | ND     | ND     | ND     | ND     | NA     | ND     | NA |
| <b>Notes:</b>         |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| ND - Not Detected     |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |
| NA - Not Analyzed     |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |    |

Source: BCM Engineers Inc. (Project No. 00-7074-42)

TABLE 1 (Cont'd)

**SUMMARY OF DETECTED SEMIVOLATILE CONCENTRATIONS IN GROUNDWATER**

WESTERN SAND AND GRAVEL SITE

BURRELLVILLE, RHODE ISLAND

|                  |                            | Sep-92 | Sep-93 | Sep-94 | Sep-95 | Sep-97 |
|------------------|----------------------------|--------|--------|--------|--------|--------|
| <b>Location:</b> |                            |        |        |        |        |        |
| I2S              | Diethylphthalate           | 2      | ND     | ND     | ND     | ND     |
|                  | N-Nitrosodiphenylamine (1) | 1      | ND     | ND     | ND     | ND     |
|                  | bis(2-ethylhexyl)phthalate | 8      | 2      | ND     | ND     | ND     |
|                  | Phenol                     | 3      | ND     | 2      | ND     | ND     |
| I2M              | bis(2-ethylhexyl)phthalate | 2      | 3      | ND     | 1      | ND     |
| I2D              | Phenol                     | 1      | ND     | ND     | ND     | ND     |
|                  | Diethylphthalate           | 2      | ND     | ND     | ND     | ND     |
|                  | bis(2-ethylhexyl)phthalate | 3      | 6      | ND     | ND     | ND     |
| I3S              | Diethylphthalate           | 2      | ND     | ND     | ND     | ND     |
|                  | bis(2-ethylhexyl)phthalate | 23     | 15     | 2      | ND     | ND     |
|                  | Di-n-butylphthalate        | ND     | ND     | 1      | ND     | ND     |
| I3M              | bis(2-ethylhexyl)phthalate | ND     | 3      | ND     | ND     | ND     |
| I3D              | Diethylphthalate           | 1      | ND     | ND     | ND     | ND     |
|                  | bis(2-ethylhexyl)phthalate | 2      | 6      | ND     | ND     | ND     |
| I6S              | Phenol                     | 3      | ND     | ND     | ND     | ND     |
|                  | Diethylphthalate           | 2      | ND     | ND     | 1/1    | ND     |
|                  | bis(2-ethylhexyl)phthalate | 44     | 17     | 2      | ND     | ND     |
| I6M              | Phenol                     | 2/ND   | ND     | ND     | ND     | ND     |
|                  | Diethylphthalate           | ND/1   | ND     | ND     | 2      | ND     |
|                  | bis(2-ethylhexyl)phthalate | 7/5    | 2      | ND     | ND     | ND     |
| I6D              | bis(2-ethylhexyl)phthalate | 3      | 3/2    | ND     | ND     | ND     |
|                  | Phenol                     | ND     | ND     | 2      | ND     | ND     |
|                  | Diethylphthalate           | ND     | ND     | ND     | 1      | ND     |

TABLE 1 (Cont'd)

## SUMMARY OF DETECTED SEMIVOLATILE CONCENTRATIONS IN GROUNDWATER

WESTERN SAND AND GRAVEL SITE

BURRILVILLE, RHODE ISLAND

|      |                            | Sep-92  | Sep-93 | Sep-94 | Sep-95 | Sep-97 |
|------|----------------------------|---------|--------|--------|--------|--------|
| II3S | Diethylphthalate           | 1       | ND     | ND     | 1      | ND     |
|      | bis(2-ethylhexyl)phthalate | 3       | 2      | ND     | ND     | 0.4    |
|      | Phenol                     | ND      | 1      | ND     | ND     | ND     |
|      | Di-n-butylphthalate        | ND      | ND     | ND     | ND     | 0.1    |
| II3M | 2-Methylphenol             | 3       | ND     | ND     | ND     | ND     |
|      | 2,4-Dimethylphenol         | 4       | ND     | ND     | ND     | ND     |
|      | Diethylphthalate           | 2       | ND     | ND     | 2      | 0.2    |
|      | bis(2-ethylhexyl)phthalate | 2       | 2      | ND     | 1      | 0.9    |
|      | Isophorone                 | ND      | ND     | ND     | ND     | 2.0    |
|      | Naphthalene                | ND      | ND     | ND     | ND     | 0.3    |
| II3D | Isophorone                 | 1       | ND     | ND     | ND     | ND     |
|      | bis(2-ethylhexyl)phthalate | 1,200/2 | 1/4    | ND     | ND     | 0.5    |
|      | Diethylphthalate           | ND      | ND     | ND     | 2      | 0.2    |
|      | Naphthalene                | ND      | ND     | ND     | ND     | 0.2    |
|      | Di-n-butylphthalate        | ND      | ND     | ND     | ND     | 0.1    |
| C1D  | Diethylphthalate           | 2       | ND     | ND     | 2      | ND     |
|      | bis(2-ethylhexyl)phthalate | 2       | 1      | 1      | 2      | 2      |
| C2S  | Diethylphthalate           | ND      | ND     | ND     | ND     | ND     |
|      | bis(2-ethylhexyl)phthalate | 3       | 8      | ND     | ND     | ND     |
| C2M  | Diethylphthalate           | 1       | ND     | ND     | ND     | ND     |
|      | bis(2-ethylhexyl)phthalate | 9       | 3      | ND     | ND     | ND     |
| C2D  | Diethylphthalate           | 1       | ND     | ND     | ND     | ND     |
|      | bis(2-ethylhexyl)phthalate | 2       | 2      | ND     | ND     | ND     |
| C3S  | Diethylphthalate           | ND      | ND     | ND     | 1      | ND     |

TABLE 1 (Cont'd)

**SUMMARY OF DETECTED SEMIVOLATILE CONCENTRATIONS IN GROUNDWATER****WESTERN SAND AND GRAVEL SITE****BURRILVILLE, RHODE ISLAND**

|     |                            | Sep-92 | Sep-93 | Sep-94  | Sep-95 | Sep-97 |
|-----|----------------------------|--------|--------|---------|--------|--------|
|     | bis(2-ethylhexyl)phthalate | 2      | 1      | ND      | ND     | ND     |
| C3M | Diethylphthalate           | 1      | ND     | ND      | ND     | ND     |
|     | bis(2-ethylhexyl)phthalate | 3      | 3      | ND      | ND     | ND     |
| C3D | Diethylphthalate           | 2      | ND     | ND      | ND     | ND     |
|     | bis(2-ethylhexyl)phthalate | 2      | 2      | ND      | ND     | ND     |
|     | Phenol                     | ND     | 1      | ND      | ND     | ND     |
| C4S | Diethylphthalate           | ND     | ND     | ND      | ND     | 0.3    |
|     | bis(2-ethylhexyl)phthalate | 3      | 3      | ND      | ND     | 1.0    |
|     | Di-n-butylphthalate        | ND     | ND     | ND      | ND     | 0.1    |
| C4M | Diethylphthalate           | 2      | 1      | ND      | ND     | 0.3    |
|     | bis(2-ethylhexyl)phthalate | 1      | 17     | ND      | ND     | 0.7    |
|     | Phenol                     | ND     | 2      | 2       | ND     | ND     |
|     | Di-n-butylphthalate        | ND     | ND     | ND      | ND     | 0.1    |
| C4D | Diethylphthalate           | ND     | ND     | ND      | ND     | 0.5    |
|     | bis(2-ethylhexyl)phthalate | 5      | 1      | ND      | ND     | 0.8    |
|     | Phenol                     | ND     | 10     | 3       | ND     | ND     |
|     | Isophorone                 | ND     | ND     | ND      | ND     | 0.2    |
|     | Di-n-butylphthalate        | ND     | ND     | ND      | ND     | 0.1    |
| C5S | Diethylphthalate           | 2      | 1      | ND      | ND     | ND     |
|     | bis(2-ethylhexyl)phthalate | 1      | 5      | ND      | ND     | ND     |
|     | Phenol                     | ND     | 7      | ND      | ND     | ND     |
|     | Di-n-butylphthalate        | ND     | 1      | ND      | ND     | 0.1    |
| C5M | Phenol                     | 60     | 53     | 110/120 | 8      | 52     |
|     | 1,3-Dichlorobenzene        | ND     | ND     | ND      | ND     | 0.2    |
|     | 1,4-Dichlorobenzene        | ND     | ND     | 1/1     | ND     | 0.6    |
|     | 1,2-Dichlorobenzene        | 4      | 2      | 4/4     | ND     | 2.0    |
|     | 2-Methylphenol             | 10     | 4      | 6/6     | ND     | 4.0    |

TABLE 1 (Cont'd)

**SUMMARY OF DETECTED SEMIVOLATILE CONCENTRATIONS IN GROUNDWATER****WESTERN SAND AND GRAVEL SITE****BURRILVILLE, RHODE ISLAND**

|                            |  | Sep-92 | Sep-93 | Sep-94  | Sep-95 | Sep-97 |
|----------------------------|--|--------|--------|---------|--------|--------|
| 4-Methylphenol             |  | 140    | 81     | 140/150 | 10     | 68     |
| Isophorone                 |  | 4      | 3      | 5/5     | ND     | 3.0    |
| 2,4-Dimethylphenol         |  | 13     | 8      | 16/18   | ND     | 9.0    |
| 2,4-Dichlorophenol         |  | ND     | ND     | 1/1     | ND     | 1.0    |
| Naphthalene                |  | 3      | 2      | 2/3     | ND     | 1.0    |
| 4-Chloro-3-Methylphenol    |  | 4      | 2      | 3/3     | ND     | 2.0    |
| 2-Methylnaphthalene        |  | 4      | 2      | 3/3     | ND     | 0.8    |
| Diethylphthalate           |  | 2      | ND     | ND      | 1      | 0.4    |
| bis(2-ethylhexyl)phthalate |  | 3      | 2      | ND      | ND     | 0.4    |
| Di-n-butylphthalate        |  | ND     | ND     | ND      | ND     | 0.1    |
| <b>C5D</b>                 |  |        |        |         |        |        |
| Diethylphthalate           |  | 2      | ND     | ND      | ND     | ND     |
| bis(2-ethylhexyl)phthalate |  | 1      | 3      | ND      | ND     | ND     |
| Phenol                     |  | ND     | 2      | ND      | ND     | ND     |
| <b>C6S</b>                 |  |        |        |         |        |        |
| Diethylphthalate           |  | ND     | ND     | ND      | ND     | ND     |
| bis(2-ethylhexyl)phthalate |  | 4      | 32     | ND      | ND     | ND     |
| <b>C6M</b>                 |  |        |        |         |        |        |
| Diethylphthalate           |  | 1/1    | ND     | ND      | ND     | ND     |
| bis(2-ethylhexyl)phthalate |  | 1/2    | 2      | ND      | 1      | ND     |
| <b>C6D</b>                 |  |        |        |         |        |        |
| Diethylphthalate           |  | ND     | ND     | ND      | ND     | ND     |
| bis(2-ethylhexyl)phthalate |  | 3      | 2      | ND      | 1      | ND     |

Notes:

Units - micrograms per liter (ug/l)

ND - Not detected

# / # - Sample and duplicate result

Source: BCM Engineers Inc (Project No. 00-7074-42)

TABLE 1 (Cont'd)  
SUMMARY OF DETECTED METALS IN GROUNDWATER

| SEPTEMBER 1992 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
|                | C2S   | C2M   | C2D   | C3S   | C4S   | C4D   | C5M   | C5D   | C6S   | C6M   | C66M  | C6D   | I2S   | I3M   | I6S   | I6M   | I6D   | II3S  | II3M  | II3S  | II3M |
|                | Dup   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |
| Barium         | --    | --    | --    | 0.228 | --    | --    | 0.074 | --    | 0.143 | --    | --    | --    | --    | --    | --    | --    | 0.065 | --    | --    | --    |      |
| Copper         | --    | --    | --    | 0.022 | --    | --    | --    | --    | --    | --    | --    | 0.008 | --    | 0.045 | --    | --    | --    | --    | 0.006 | --    |      |
| Lead           | --    | 0.003 | 0.004 | 0.010 | 0.002 | 0.008 | --    | --    | 0.009 | 0.002 | --    | 0.006 | 0.025 | --    | 0.004 | 0.002 | --    | 0.006 | --    | 0.006 |      |
| Zinc           | 0.036 | --    | --    | 0.041 | --    | --    | --    | 0.023 | 0.089 | --    | 0.022 | 0.021 | --    | 0.022 | 0.025 | --    | 0.047 | 0.045 | 0.055 | 0.045 |      |

| SEPTEMBER 1993 |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |    |    |
|----------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|----|----|
|                | C1D  | C2S   | C2D   | C3S   | C4S   | C5S   | C5M   | C6S   | I2S   | I2M   | I3S   | I3M   | I6S   | I6M   | II3S  | II3D  | II33D | Dup |    |    |
|                | Dup  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |    |    |
| Aluminum       | 1.11 | 1.94  | 0.163 | 11.6  | 1.23  | 1.98  | 0.861 | 10.1  | 2.78  | 0.299 | 0.609 | 0.132 | 1.48  | 0.156 | 1.07  | 0.244 | 0.236 | --  | -- | -- |
| Barium         | --   | 0.050 | --    | 0.133 | --    | 0.055 | 0.081 | 0.089 | --    | --    | 0.086 | --    | --    | --    | 0.054 | --    | --    | --  | -- | -- |
| Cobalt         | --   | --    | --    | --    | --    | --    | 0.026 | --    | --    | --    | --    | --    | --    | --    | --    | --    | --    | --  | -- | -- |
| Copper         | --   | --    | --    | --    | --    | --    | --    | --    | --    | --    | 0.053 | --    | --    | --    | --    | --    | --    | --  | -- | -- |
| Lead           | --   | 0.002 | --    | 0.005 | --    | --    | --    | 0.004 | 0.012 | --    | --    | --    | 0.003 | --    | 0.003 | --    | --    | --  | -- | -- |
| Zinc           | --   | --    | --    | 0.042 | 0.026 | --    | --    | 0.025 | --    | --    | 0.043 | --    | --    | --    | --    | --    | --    | --  | -- | -- |

| SEPTEMBER 1994 |        |        |        |        |        |        |        |        |       |       |       |       |       |        |       |        |        |        |        |        |        |        |       |        |       |       |       |
|----------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|--------|-------|--------|--------|--------|--------|--------|--------|--------|-------|--------|-------|-------|-------|
|                | C1D    | C2S    | C2M    | C2D    | C3S    | C3M    | C3D    | C4S    | C4D   | C5S   | C5M   | C55M  | C5D   | C6S    | C6M   | C6D    | I2S    | I2M    | I3S    | I3M    | I3D    | I6S    | I6M   | I6D    | II3S  | II3M  |       |
|                | Dup    |        |        |        |        |        |        |        |       |       |       |       |       |        |       |        |        |        |        |        |        |        |       |        |       |       |       |
| Aluminum       | 1.12J  | 8.4J   | 0.201J | 0.055J | 4.4J   | 0.043J | 0.127J | 0.199J | -     | 4.97  | 1.08  | 1     | 0.107 | 48.4J  | 1.24J | 0.277J | 10.5J  | 12.5J  | 0.105J | 5.68J  | 0.051J | 0.091J | 6.01  | 0.136  | -     | 2.74  | 0.231 |
| Barium         | 0.024J | 0.086J | 0.021J | 0.021J | 0.07J  | 0.021J | 0.021J | 0.032J | 0.045 | 0.067 | 0.12  | 0.113 | -     | 0.232J | -     | -      | 0.067J | 0.082J | 0.022J | 0.034J | -      | -      | 0.052 | -      | 0.027 | 0.07  | 0.022 |
| Cobalt         | 0.02J  | 0.011J | -      | -      | -      | -      | -      | -      | -     | -     | 0.037 | 0.035 | -     | 0.033J | -     | -      | 0.011J | 0.013J | -      | -      | -      | -      | -     | -      | -     | -     | -     |
| Copper         | 0.013J | 0.016J | -      | -      | 0.02J  | -      | -      | -      | -     | -     | -     | -     | -     | 0.017J | 0.003 | -      | 0.008J | 0.006J | -      | -      | -      | -      | -     | 0.003J | -     | -     | -     |
| Lead           | -      | 0.004J | -      | -      | -      | -      | -      | -      | -     | -     | -     | -     | 0.051 | 0.039J | -     | -      | -      | -      | -      | -      | -      | -      | -     | -      | -     | -     | -     |
| Nickel         | -      | -      | -      | -      | -      | -      | -      | -      | -     | -     | -     | -     | -     | 0.174J | -     | -      | 0.039J | 0.052J | -      | 0.018J | -      | -      | 0.023 | -      | 0.022 | 0.025 | -     |
| Zinc           | 0.056J | 0.084J | -      | -      | 0.056J | -      | 0.012J | -      | 0.013 | 0.014 | 0.027 | 0.025 | -     | -      | -     | -      | -      | -      | -      | -      | -      | -      | -     | -      | -     | -     | -     |

TABLE 1 (Cont'd)  
SUMMARY OF DETECTED METALS IN GROUNDWATER

**SEPTEMBER 1995**

|          | C1D     | C2S   | C2M   | C2D     | C3S     | C3M    | C3D   | C4S     | C4M   | C4D     | C5S     | C5M     | C5D   | C6S     | C6D     | I2S     | I2M    | I2D   | I3S     | I3M     | I3D     | I6S     | I66S    | I6M     | I6D     | II3S    | II3M    | II3D    |   |   |
|----------|---------|-------|-------|---------|---------|--------|-------|---------|-------|---------|---------|---------|-------|---------|---------|---------|--------|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|---|
|          | Dup     |       |       |         |         |        |       |         |       |         |         |         |       |         |         |         |        |       |         |         |         |         |         |         |         |         |         |         |   |   |
| Aluminum | 0.880   | 0.546 | 0.027 | 0.028   | 0.752   | 0.033  | 0.038 | 0.096   | 0.031 | < 0.02  | 0.397   | 0.324   | 0.028 | 4.66    | 0.032   | 1.30    | 0.052  | 0.026 | 0.916   | 0.030   | 0.025   | 3.14 J  | 1.9 J   | 0.095   | 0.073   | 0.487   | 0.021   | 0.044   |   |   |
| Barium   | 0.028   | 0.035 | 0.017 | 0.016   | 0.049   | 0.018  | 0.019 | 0.029   | 0.018 | 0.036   | 0.069   | 0.036   | -     | 0.074   | -       | 0.033   | 0.026  | 0.015 | 0.019   | -       | 0.011   | 0.044   | 0.037   | 0.016   | 0.024   | 0.048   | 0.018   |         |   |   |
| Cobalt   | 0.012   | -     | -     | -       | -       | -      | -     | -       | -     | -       | -       | -       | -     | 0.008   | -       | -       | -      | -     | -       | -       | -       | -       | -       | -       | -       | -       | -       |         |   |   |
| Copper   | 0.016   | -     | -     | -       | -       | -      | -     | -       | -     | -       | -       | -       | -     | -       | -       | -       | -      | -     | -       | -       | -       | 0.004 J | 0.004 J | -       | -       | 0.003 J | -       | -       |   |   |
| Lead     | 0.001 J | -     | -     | 0.002 J | -       | -      | -     | -       | -     | -       | -       | -       | -     | 0.003 J | -       | 0.002 J | -      | 0.001 | -       | -       | -       | 0.009 J | 0.016 J | 0.007 J | 0.016 J | 0.009 J | -       | -       |   |   |
| Zinc     | 0.052 U | -     | -     | 0.009   | 0.007 J | 0.01 J | -     | 0.008 J | -     | 0.013 J | 0.008 J | 0.008 J | -     | 0.048 J | 0.013 J | 0.042 J | 0.02 J | 0.017 | 0.022 J | 0.009 J | 0.007 J | 0.029 J | -       | 0.009 J | 0.016 J | 0.007 J | 0.016 J | 0.009 J | - | - |

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|          | C4S   | C4M     | C4D     | C5S    | C5M    | C5D    | II3S   | II3M   | II3D   | II-33D | I-102-D | Dup |
|----------|-------|---------|---------|--------|--------|--------|--------|--------|--------|--------|---------|-----|
| Aluminum | 281 J | 62.5 UJ | 37.9 UJ | 1570 J | 1630 J | 55.6 J | 1480 J | 34.0 J | 67.5 J | 60.2 J | UJ      |     |
| Barium   | 33.7  | 21.4    | 38.8    | 70.0   | 71.4   | 6.2    | 75.1   | 17.3   | 4.3    | 3.7    | --      |     |
| Cobalt   | --    | --      | --      | --     | 19.4   | --     | 7.6    | --     | --     | --     | --      |     |
| Copper   | 10.7  | --      | 5.6     | --     | 8.6    | --     | 2.9    | --     | --     | --     | --      |     |
| Lead     | 1.2   | --      | --      | --     | 1.1    | --     | 1.9    | --     | --     | --     | --      |     |
| Nickel   | 2.8   | 1.2     | 3.6     | 22.0   | 10.2   | 1.2    | 6.8    | 1.9    | 4.1 J  | 2.0 J  | --      |     |
| Zinc     | 62.8  | 13.3    | 22.6    | 27.4   | 44.4   | 34.5   | 22.9   | 17.4   | 12.1 J | 16.0 J | 8.7     |     |

**Notes:**

J - Denotes an estimated value less than the contract required quantitation limit (CROL) or exceeding QC criteria.

U - Questionable qualitative value due to blank contamination. Reported results have been changed to reflect an adjusted quantitation limit.

**TABLE 2**  
**GROUNDWATER MONITORING DATA FOR BENZENE**  
Concentrations in ppb

| Well | Se89 | Au90 | Nu90 | Sc91 | De91 | Ja92 | Se92 | De92 | Mr93 | Ju93 | Se93 | De93 | Mr94 | Ju94 | Se94 | De94 | Mr95 | Ju95 | Se95 | De95 | Mr96 | Ju96 | Se96 | De96 | Mr97 | Ju97 | Se97 | De97 |   |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---|
| C2S  | x    | 2.7  | x    | x    | x    | x    | 0.5  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |   |
| C2M  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | x    | NA   | NA   | NA   | x    | NA   |   |
| C2D  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |   |
| C3S  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |   |
| C3M  | x    | x    | x    | 0.8  | x    | x    | x    | 0.7  | x    | 0.5  | x    | x    | x    | x    | x    | x    | 0.8  | x    | x    | x    | NA   | NA   | x    | NA   | NA   | NA   | x    | NA   |   |
| C3D  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |   |
| C4S  | 2.0  | 1.3  | 5.0  | 1.0  | 3.0  | 1.0  | x    | 2.1  | 1.0  | 2.0  | 1.0  | 0.9  | 1.8  | 0.9  | 0.5  | 0.9  | x    | 0.8  | x    | x    | x    | x    | x    | x    | x    | 0.93 | 2.3  | x    | x |
| C4M  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |   |
| C4D  | x    | x    | x    | x    | x    | x    | x    | 0.5  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |   |
| C5S  | x    | x    | x    | x    | x    | x    | 2.0  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |   |
| C5M  | 34   | 1.4  | 4.0  | 2.0  | 3.0  | 5.0  | 21   | 5.6  | 4.0  | 0.9  | x    | 5.2  | 1.8  | 2.8  | 6.5  | 5.5  | 2.8  | 5.1  | 1.1  | 9.9  | x    | 0.9  | 10   | x    | x    | x    | 8.1  | x    |   |
| C5D  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |      |   |
| C6S  | x    | x    | x    | x    | x    | x    | x    | x    | x    | 0.7  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |   |
| C6M  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |      |   |
| C6D  | x    | x    | x    | x    | x    | x    | x    | 0.6  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |      |   |
| I2S  | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |   |
| I2M  | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |   |
| I2D  | NA   | x    | x    | x    | 0.7  | x    | x    | 0.8  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA   | NA   | x    | NA   |      |   |
| I3S  | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 1.8  | NA   | NA   | x    | NA   | NA   | x    | NA   |   |
| I3M  | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 0.6  | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | x    | NA   | NA   | x    | NA   |      |   |
| I3D  | NA   | 1.4  | 2.0  | 1.0  | 2.0  | 1.0  | 1.2  | 1.2  | 1.3  | 0.8  | 0.5  | 1.0  | x    | 1.3  | 0.9  | 0.7  | x    | 0.8  | 0.7  | 0.6  | NA   | NA   | x    | NA   | NA   | x    | NA   |      |   |
| I4S  | NA   |      |   |
| I4M  | NA   |      |   |
| I4D  | NA   |      |   |
| I6S  | NA   | x    | x    | x    | x    | x    | 0.9  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA   | NA   | NA   | x    | NA   |   |
| I6M  | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |   |
| I6D  | NA   | x    | x    | x    | x    | x    | x    | 0.6  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |   |
| I7S  | NA   |      |   |
| I7M  | NA   |      |   |
| I7D  | NA   |      |   |
| II3S | NA   | 5.0  | 19   | 3.0  | 1.0  | x    | x    | 0.5  | x    | 59   | x    | x    | 0.9  | 1.8  | x    | x    | x    | x    | x    | x    | 1.4  | 7.4  | x    | x    | x    | 2.9  | x    | x    |   |
| II3M | NA   | 13   | 10   | 1.8  | 29   | 1.0  | x    | 1.0  | 2.6  | x    | x    | x    | 2.0  | 23   | x    | x    | 0.8  | x    | x    | x    | 1.1  | 0.8  | x    | x    | 2.2  | 1.1  | x    | x    |   |
| II3D | NA   | x    | 3.0  | x    | x    | 2.0  | x    | 3.3  | 0.9  | x    | 1.4  | 1.3  | 0.6  | x    | 0.6  | 0.5  | x    | x    | 0.9  | x    | x    | x    | x    | x    | x    | x    | x    |      |   |
| II6S | NA   |      |   |
| II6M | NA   |      |   |
| II6D | NA   | x    | NA   |      |      |   |
| Max  | 34   | 13   | 19   | 3.0  | 29   | 5.0  | 21   | 5.6  | 4.0  | 59   | 1.4  | 5.2  | 2.0  | 23   | 6.5  | 5.5  | 2.8  | 5.1  | 1.1  | 9.9  | 1.4  | 7.4  | 10   | 0.0  | 2.2  | 2.9  | 8.1  | 0.0  |   |

x Not Detected in Sample

NA Not Analyzed

**TABLE 3**  
**GROUNDWATER MONITORING DATA FOR TETRACHLOROETHENE (PCE)**  
Concentrations in ppb

| Well       | Fe89 | Se89 | Au90 | No90 | Se91 | De91 | Fe92 | Ju92 | Se92 | De92 | Mr93 | Ju93 | Se93 | De93 | Mr94 | Ju94 | Se94 | De94 | Mr95 | Ju95 | Se95 | De95 | Mr96 | Ju96 | Se96 | De96 | Mr97 | Ju97 | Se97 | De97 |      |
|------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| C2S        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | x    | NA   | NA   | NA   | x    | NA   |      |      |
| C2M        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | x    | NA   | NA   | NA   | x    | NA   |      |      |
| C2D        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | x    | NA   | NA   | NA   | x    | NA   |      |      |
| C3S        | x    | x    | x    | 1.0  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | x    | NA   | NA   | NA   | x    | NA   |      |      |
| C3M        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | x    | NA   | NA   | NA   | x    | NA   |      |      |
| C3D        | x    | 2.0  | 1.0  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | x    | NA   | NA   | NA   | x    | NA   |      |      |
| C4S        | 17   | 7.0  | 18   | 23   | 5.0  | 9.0  | 17   | 18   | 2.1  | 3.1  | 14   | 19   | 1.3  | 0.9  | 6.2  | 14   | 3.1  | 2.5  | 8.8  | 7.2  | x    | 2.4  | 13   | 20   | 3.9  | 2.3  | 17   | 19   | 2.3  | 1.4  |      |
| C4M        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |      |      |      |
| C4D        | 5.0  | 3.0  | x    | 3.0  | 0.6  | 1.0  | 1.0  | 1.0  | x    | x    | x    | 0.5  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |      |      |      |
| C5S        | 50   | 25   | x    | 11   | 8.0  | 9.0  | 9.0  | 7.0  | 8.2  | 4.7  | 22   | 12   | x    | 12   | 10   | 12   | 15   | 5.1  | 5.1  | 8.0  | 9.0  | 6.4  | 3.2  | 1.4  | 2.6  | 1.6  | 2.6  | 1.3  | 3.6  | 4.3  |      |
| C5M        | x    | 5.0  | x    | 1.0  | x    | 0.6  | 1.0  | 1.0  | x    | 0.8  | 1.8  | 0.6  | x    | 0.5  | 0.7  | 1.2  | 2.2  | 0.6  | 1.2  | 0.5  | x    | 2.5  | 0.7  | 0.6  | 2.0  | ND   | ND   | ND   | ND   | 1.2  | 0.69 |
| C5D        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 0.54 | x    |      |      |
| C6S        | 64   | 23   | 16   | 22   | 10   | 8.5  | 6.0  | 5.0  | 2.4  | 4.9  | 4.0  | 3.3  | 1.0  | 3.6  | 1.5  | 2.2  | 1.2  | 1.6  | 2.3  | 1.0  | 0.8  | 2.0  | 1.0  | 1.9  | 1.0  | 0.66 | 0.81 | 1.5  | 0.81 | x    |      |
| C6M        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 0.7  | x    | x    | x    | x    | x    | 0.70 | 0.58 | 0.63 | x    | x    |
| C6D        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 0.54 | 0.56 | 0.88 | 0.69 |      |
| I2S        | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |      |
| I2M        | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |      |
| I2D        | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |      |
| I3S        | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 0.9  | NA   | NA   | x    | NA   | NA   | NA   | 0.51 | NA   |      |      |
| I3M        | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 0.5  | x    | x    | x    | x    | x    | x    | 0.5  | NA   | NA   | 0.7  | NA   | NA   | NA   | 1.1  | NA   |      |      |
| I3D        | 2.0  | NA   | x    | 1.0  | 0.9  | 1.0  | 1.0  | x    | 0.9  | 1.2  | 0.6  | 0.5  | 0.7  | x    | 0.8  | 1.0  | 0.7  | 0.8  | 0.7  | 0.8  | 0.9  | NA   | NA   | 1.2  | NA   | NA   | ND   | NA   | NA   |      |      |
| I4S        | NA   | x    | NA   |      |      |      |
| I4M        | NA   | 0.7  | NA   | 2.3  | NA   | NA   | NA   | NA   | NA   | 4.4  | NA   |      |
| I4D        | NA   | 1.2  | NA   |      |      |
| I6S        | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |      |
| I6M        | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |      |
| I6D        | 2.0  | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |      |
| I7S        | NA   | x    | NA   |      |      |      |
| I7M        | NA   | x    | NA   |      |      |      |
| I7D        | NA   | x    | NA   | NA   | NA   | NA   | NA   | x    | x    | 3.5  | NA   |      |      |
| II3S       | 5.0  | NA   | 21   | 17   | 6.0  | 5.0  | 5.0  | 6.0  | 3.8  | 2.0  | 8.1  | 18   | 1.0  | 1.2  | 2.6  | 1.3  | 3.3  | 1.7  | 7.4  | 8.7  | 0.7  | 1.5  | 4.4  | 7.2  | 7.4  | 2.8  | 3.2  | 7.3  | 5.2  | 1.3  |      |
| II3M       | 2.0  | NA   | 3.6  | x    | 6.5  | x    | x    | 3.0  | 2.0  | 2.0  | 1.5  | x    | 1.1  | 0.5  | x    | 17   | 1.0  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |      |      |
| II3D       | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 1.0  | x    | 1.0  | x    | 0.7  | x    | x    | x    | x    | x    |      |      |
| II6S       | NA   | x    | NA   |      |      |      |
| II6M       | NA   | x    | NA   |      |      |      |
| II6D       | NA   | x    | NA   |      |      |      |
| <b>Max</b> | 64   | 25   | 21   | 23   | 10   | 9    | 17   | 18   | 8    | 5    | 22   | 19   | 1.3  | 12   | 10   | 17   | 15   | 5.1  | 8.8  | 8.7  | 9.0  | 6.4  | 13   | 20   | 7.4  | 2.8  | 17.0 | 19.0 | 5.2  | 4.3  |      |

x Not Detected in Sample

NA Not Analyzed

**TABLE 4**  
**GROUNDWATER MONITORING DATA FOR TRICHLOROETHENE (TCE)**  
Concentrations in ppb

| Well | Fe89 | Se89 | Au90 | No90 | Se91 | De91 | Fe92 | Ju92 | Se92 | De92 | Mr93 | Ju93 | Se93 | De93 | Mr94 | Ju94 | Se94 | De94 | Mr95 | Ju95 | Se95 | De95 | Mr96 | Ju96 | Se96 | De96 | Mr97 | Ju97 | Se97 | De97 |     |  |  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|--|--|
| C2S  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |      |     |  |  |
| C2M  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |      |     |  |  |
| C2D  | 22   | 8.0  | 5.4  | 14   | 5.0  | 2.0  | 2.0  | 0.6  | x    | 1.9  | x    | x    | 0.7  | x    | x    | x    | 0.6  | x    | x    | x    | x    | NA   | NA   | x    | NA   | NA   | NA   | x    | NA   |      |     |  |  |
| C3S  | x    | x    | x    | 6.0  | x    | 3.0  | 2.5  | 1.0  | x    | x    | 0.7  | 1.3  | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | x    | NA   | NA   | NA   | x    | NA   |      |     |  |  |
| C3M  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |     |  |  |
| C3D  | 8.0  | 11   | x    | 9.0  | 4.0  | 4.0  | 3.0  | 2.0  | 0.7  | 0.6  | 2.7  | 2.3  | x    | x    | x    | 1.1  | x    | x    | x    | x    | x    | NA   | NA   | x    | NA   | NA   | NA   | x    | NA   |      |     |  |  |
| C4S  | 4.0  | 5.0  | x    | 14   | 3.0  | 5.0  | 12   | 17   | 1.4  | 1.2  | 9.8  | 28   | 0.7  | 0.7  | 4.2  | 10   | 2.6  | 2.2  | 6.7  | 6.6  | x    | 1.2  | 11   | 13   | 3.4  | 2.2  | 10   | 13   | x    | x    |     |  |  |
| C4M  | x    | 3.0  | 7.0  | 4.0  | 3.0  | 4.0  | 5.0  | 0.6  | 0.6  | x    | 2.4  | 1.0  | x    | x    | x    | 1.4  | x    | x    | x    | x    | x    | 2.8  | 0.7  | x    | 1.8  | 0.76 | x    | x    |      |      |     |  |  |
| C4D  | 8.0  | 21   | 7.2  | 23   | 6.0  | 4.3  | 11   | 7.0  | 3.2  | 0.9  | 2.8  | 3.9  | 2.4  | x    | 0.9  | 3.0  | 2.6  | 0.8  | 1.3  | 1.7  | 0.5  | x    | x    | 2.7  | 2.9  | x    | 1.6  | 0.70 | 0.65 | x    |     |  |  |
| C5S  | 200  | 57   | 3.7  | 9.0  | 7.0  | 8.0  | 9.0  | 5.0  | 7.2  | 6.5  | 30   | 13   | 9.7  | 34   | 11   | 14   | 27   | 4.9  | 5.0  | 12   | 17   | 12   | 2.5  | x    | 2.8  | x    | 1.5  | x    | 3.3  | x    |     |  |  |
| C5M  | x    | 20   | 3.9  | x    | 2.0  | x    | 2.0  | x    | 0.5  | 3.1  | 1.3  | 0.7  | x    | 0.7  | 4.6  | 6.4  | x    | 1.4  | x    | x    | 5.4  | x    | 1.3  | x    | x    | x    | x    | x    | 3.2  | 1.0  |     |  |  |
| C5D  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |      |      |     |  |  |
| C6S  | 5.0  | 3.0  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |      |      |     |  |  |
| C6M  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |      |      |     |  |  |
| C6D  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |      |      |     |  |  |
| I2S  | x    | NA   | x    | x    | x    | 0.6  | 0.6  | x    | x    | 0.5  | x    | x    | x    | x    | x    | x    | x    | 0.5  | x    | x    | x    | x    | NA   | NA   | NA   | NA   | NA   | x    | NA   |      |     |  |  |
| I2M  | 1.0  | NA   | 1.8  | 3.0  | 1.0  | x    | x    | 0.7  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |     |  |  |
| I2D  | 6.0  | NA   | 4.6  | 3.0  | 3.0  | 2.0  | 2.0  | 1.5  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |     |  |  |
| I3S  | 2.0  | NA   | x    | x    | x    | x    | x    | x    | x    | 1.0  | x    | x    | x    | 1.1  | x    | x    | 0.8  | 1.0  | x    | x    | x    | 1.6  | NA   | NA   | x    | NA   | NA   | x    | NA   |      |     |  |  |
| I3M  | ND   | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 2.0  | x    | x    | x    | x    | x    | NA   | NA   | x    | NA   | NA   | x    | NA   |      |     |  |  |
| I3D  | 9.0  | NA   | 5.4  | 7.0  | 4.0  | 5.0  | 5.0  | 5.0  | 3.7  | 3.4  | 5.0  | 2.6  | 1.4  | 4.4  | x    | 2.9  | 3.9  | 2.9  | 3.0  | 3.2  | 3.0  | 2.9  | NA   | NA   | 3.2  | NA   | NA   | x    | NA   |      |     |  |  |
| I4S  | NA   |      |      |     |  |  |
| I4M  | NA   |      |      |     |  |  |
| I4D  | NA   |      |      |     |  |  |
| I6S  | ND   | NA   | 1.2  | 4.0  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   |      |     |  |  |
| I6M  | ND   | NA   | 2.6  | 3.0  | x    | 1.0  | 0.8  | x    | 0.7  | 1.0  | 0.7  | 0.9  | x    | x    | x    | 1.0  | 0.6  | x    | x    | x    | 0.7  | x    | NA   | NA   | NA   | NA   | NA   | x    | NA   |      |     |  |  |
| I6D  | 5.0  | NA   | 4.6  | 5.0  | 4.0  | 4.0  | 3.0  | 2.0  | 2.4  | 0.8  | 0.6  | 0.5  | 0.4  | 0.6  | x    | 0.5  | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA   | NA   | NA   | x    | NA   |      |     |  |  |
| I7S  | NA   | x    | NA   |      |     |  |  |
| I7M  | NA   | x    | NA   |      |     |  |  |
| I7D  | NA   | 0.8  | NA   | NA   | NA   | NA   | NA   | x    | NA   |      |     |  |  |
| II3S | 4.0  | NA   | 16   | 10   | 4.0  | 4.0  | 5.0  | 5.0  | 2.5  | 1.1  | 9.7  | 39   | x    | 1.1  | 1.8  | 2.9  | 2.7  | 2.4  | 8.0  | 8.0  | x    | 1.0  | 6.3  | 12   | 4.8  | 4.1  | 4.0  | 11   | 1.4  | x    |     |  |  |
| II3M | ND   | NA   | 2.4  | x    | 11   | x    | x    | 8.0  | 11   | 0.7  | x    | x    | 1.0  | x    | x    | 19   | 4.2  | 0.7  | 0.6  | 2.1  | x    | x    | 0.7  | 0.6  | 1.9  | x    | x    | x    | x    | x    | x   |  |  |
| II3D | ND   | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 3.0  | 0.5  | x    | x    | x    | x    | x    | x    | x    |     |  |  |
| II6S | NA   |     |  |  |
| II6M | NA   | x    | NA   |     |  |  |
| II6D | NA   |     |  |  |
| Max  | 200  | 57   | 16   | 23   | 11   | 8    | 12   | 17   | 11   | 7    | 30   | 39   | 10   | 34   | 11   | 19   | 27   | 4.9  | 8.0  | 8.0  | 12   | 17   | 12   | 11   | 13   | 4.8  | 4.1  | 10.0 | 13.0 | 3.3  | 1.0 |  |  |

x Not Detected in Sample

NA Not Analyzed

**TABLE 5**  
**GROUNDWATER MONITORING DATA FOR VINYL CHLORIDE**  
Concentrations in ppb

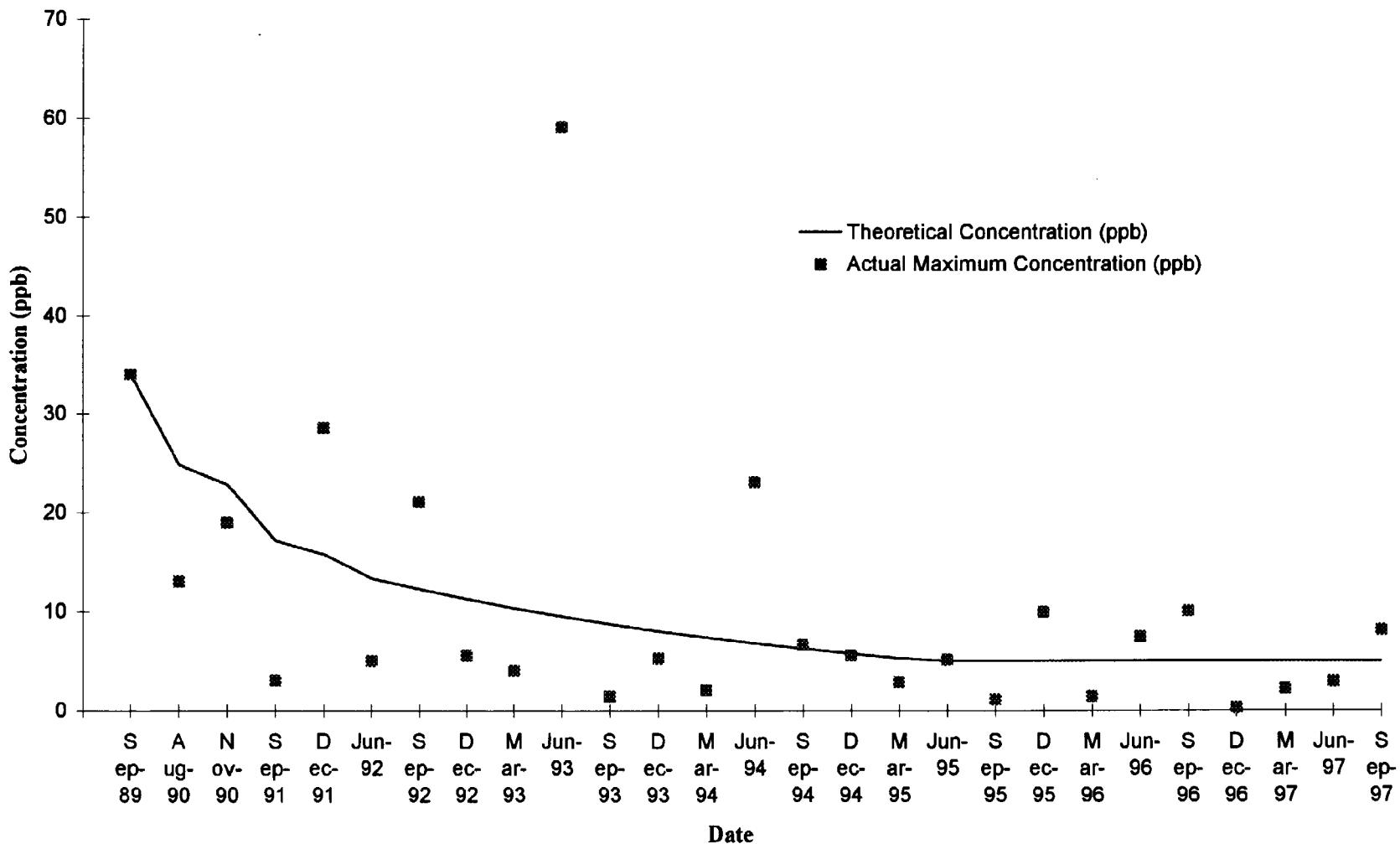
| Well       | Fe89 | Se89 | Au90 | No90 | Se91 | De91 | Fe92 | Ju92 | Se92 | De92 | Mr93 | Ju93 | Se93 | De93 | Mr94 | Ju94 | Se94 | De94 | Mr95 | Ju95 | Se95 | De95 | Mr96 | Ju96 | Se96      | De96  | Mr97 | Ju97 | Se97 | De97 |
|------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|-------|------|------|------|------|
| C2S        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA        | NA    | NA   | NA   | NA   |      |
| C2M        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA        | NA    | NA   | NA   | NA   |      |
| C2D        | 7.0  | 4.0  | x    | 2.0  | 2.0  | 3.0  | 2.0  | x    | x    | 2.0  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | x    | NA        | NA    | NA   | x    | NA   |      |
| C3S        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | x    | NA        | NA    | x    | NA   |      |      |
| C3M        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA        | NA    | NA   | NA   |      |      |
| C3D        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA        | NA    | NA   | NA   |      |      |
| C4S        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 1.7  | x    | x    | x    | x    | x    | x    | x    | x    | x    | 9.0  | x    | x    | x    | x         | x     | x    | x    |      |      |
| C4M        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x         | x     | x    |      |      |      |
| C4D        | 7.0  | 10   | x    | 10   | 0.6  | 5.0  | 4.0  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 1.1  | x    | 1.0  | 1.0  | 1.0       | x     | 0.59 | x    |      |      |
| C5S        | x    | x    | x    | x    | x    | x    | 1.0  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 1.8  | 1.8  | 1.3  | x    | x    | x         | x     | x    | 0.51 |      |      |
| C5M        | 430  | 160  | 3.9  | 7.0  | 4.0  | 2.3  | 11   | 9.0  | 53   | x    | 7.4  | 1.7  | 12   | x    | x    | 11   | 76   | 80   | 3.8  | 55   | 1.4  | 89   | x    | 1.7  | 53        | 1.5/1 | x    | x    | 11   | 5.2  |
| C5D        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x         | x     | x    |      |      |      |
| C6S        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x         | x     | x    |      |      |      |
| C6M        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x         | x     | x    |      |      |      |
| C6D        | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x         | x     |      |      |      |      |
| I2S        | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA        | NA    | NA   | NA   |      |      |
| I2M        | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA        | NA    | NA   | NA   |      |      |
| I2D        | 2.0  | NA   | x    | x    | x    | x    | 0.6  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA        | NA    | NA   | NA   |      |      |
| I3S        | 5.0  | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | 3.5  | 25   | NA   | NA   | x         | NA    | NA   | x    |      |      |
| I3M        | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA        | NA    | NA   | NA   |      |      |
| I3D        | 4.0  | NA   | 1.1  | 1.0  | 0.8  | x    | 1.0  | 1.0  | x    | x    | 1.1  | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | 0.6  | NA        | NA    | x    | NA   |      |      |
| I4S        | NA   | x    | NA   | NA   | NA   | NA   | NA        | NA    | NA   |      |      |      |
| I4M        | NA   | x    | NA   | NA   | NA   | NA   | NA        | NA    | NA   |      |      |      |
| I4D        | NA   | x    | NA   | NA   | NA   | NA   | NA        | NA    | NA   |      |      |      |
| I6S        | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA        | NA    | NA   | NA   |      |      |
| I6M        | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA        | NA    | NA   | NA   |      |      |
| I6D        | x    | NA   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | NA   | NA   | NA   | NA        | NA    | NA   | NA   |      |      |
| I7S        | NA   | x    | NA   | NA   | NA   | NA   | NA        | NA    | NA   |      |      |      |
| I7M        | NA   | x    | NA   | NA   | NA   | NA   | NA        | NA    | NA   |      |      |      |
| I7D        | NA   | x    | NA   | NA   | NA   | NA   | NA        | NA    | NA   |      |      |      |
| II3S       | x    | NA   | x    | 1.0  | x    | x    | x    | x    | x    | x    | 7.4  | 9.7  | x    | x    | 1.1  | 2.9  | x    | x    | x    | x    | x    | 17   | 17   | x    | 1.0       | 0.62  | 4.4  | x    |      |      |
| II3M       | 8.0  | NA   | 23   | 64   | 44   | 91   | 50   | 19   | 12   | x    | x    | 5.7  | 3.9  | x    | 18   | 8.8  | 2.6  | 1.3  | 2.6  | x    | x    | 1.2  | 1.9  | 1.8  | 0.68/0.66 | 0.69  | x    | 0.53 |      |      |
| II3D       | x    | NA   | x    | 1.0  | x    | x    | x    | 1.0  | x    | x    | x    | x    | x    | x    | x    | 1.0  | x    | x    | x    | x    | 1.0  | x    | x    | x    | x         | x     | x    |      |      |      |
| II6S       | NA   | x    | NA   | NA   | NA   | NA   | NA        | NA    | NA   |      |      |      |
| II6M       | NA   | x    | NA   | NA   | NA   | NA   | NA        | NA    | NA   |      |      |      |
| II6D       | NA   | x    | NA   | NA   | NA   | NA   | NA        | NA    | NA   |      |      |      |
| <b>Max</b> | 430  | 160  | 23   | 64   | 44   | 91   | 50   | 19   | 53   | 2.0  | 7.4  | 21   | 12   | 3.9  | 1.1  | 18   | 76   | 80   | 3.8  | 55   | 3.5  | 89   | 17   | 17   | 53        | 1.0   | 1.0  | 4.4  | 11.0 | 5.2  |

x Not Detected in Sample

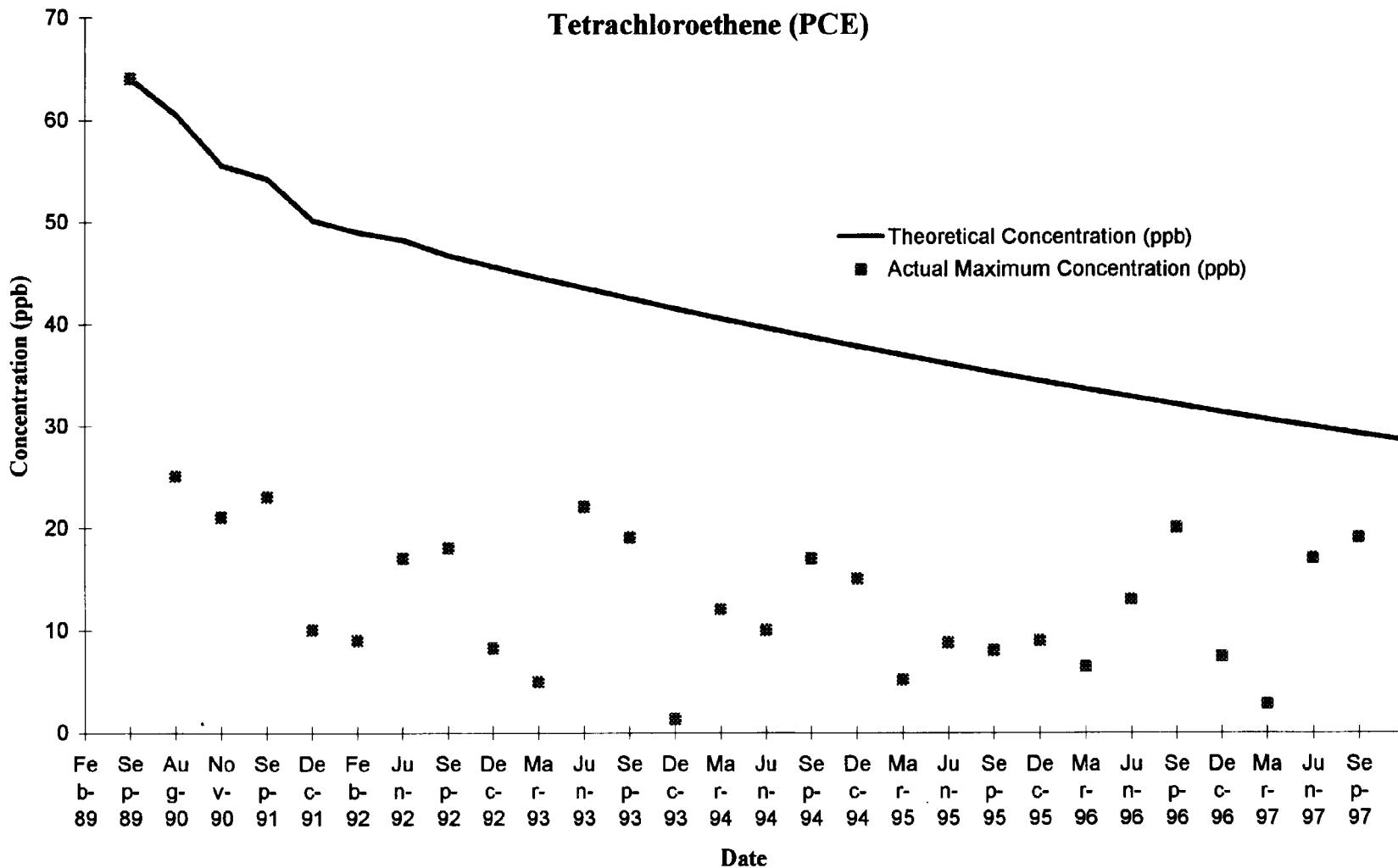
NA Not Analyzed

## **FIGURES**

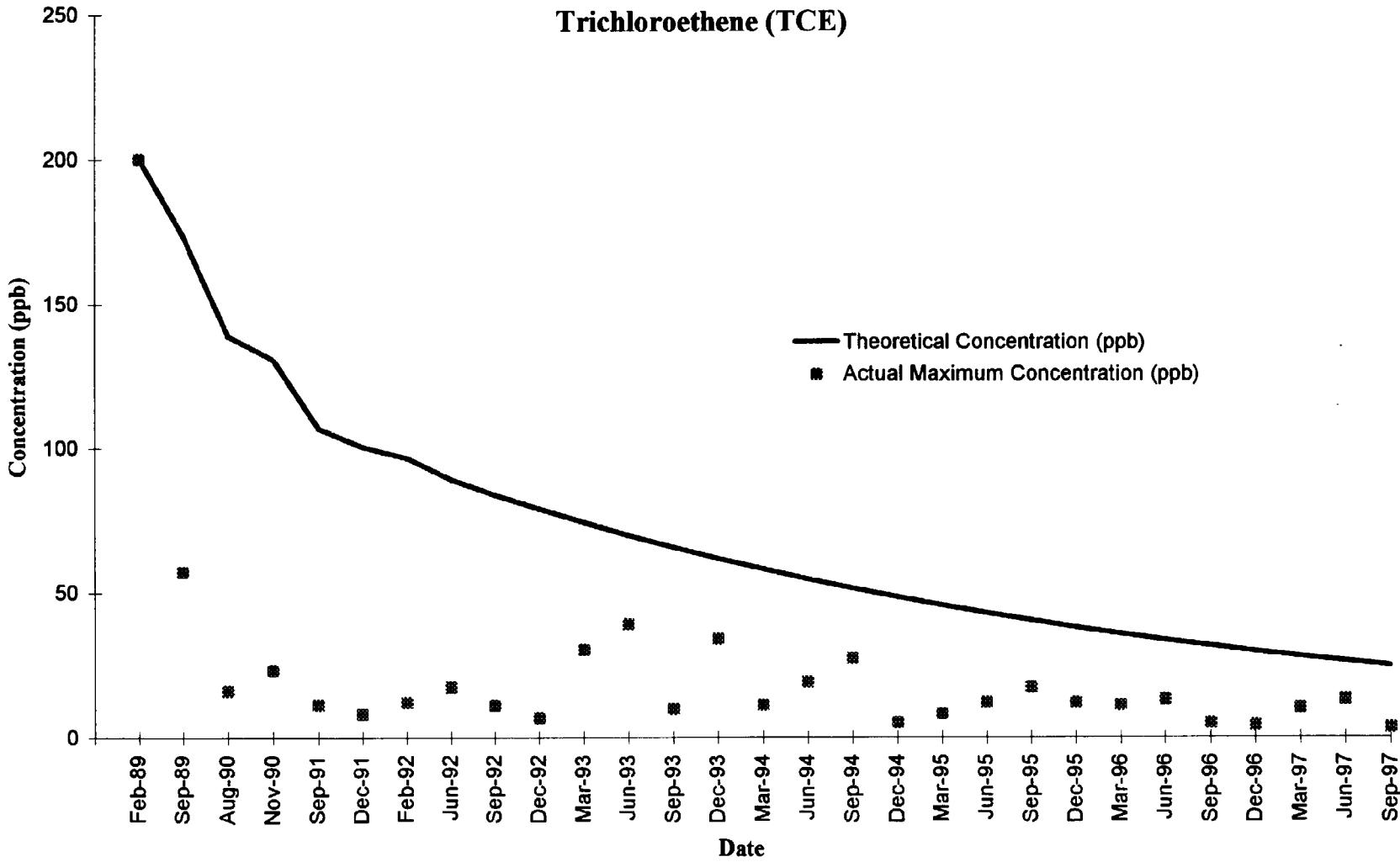
**Figure 4**  
**Theoretical Attenuation vs Actual Concentrations**  
**Benzene**



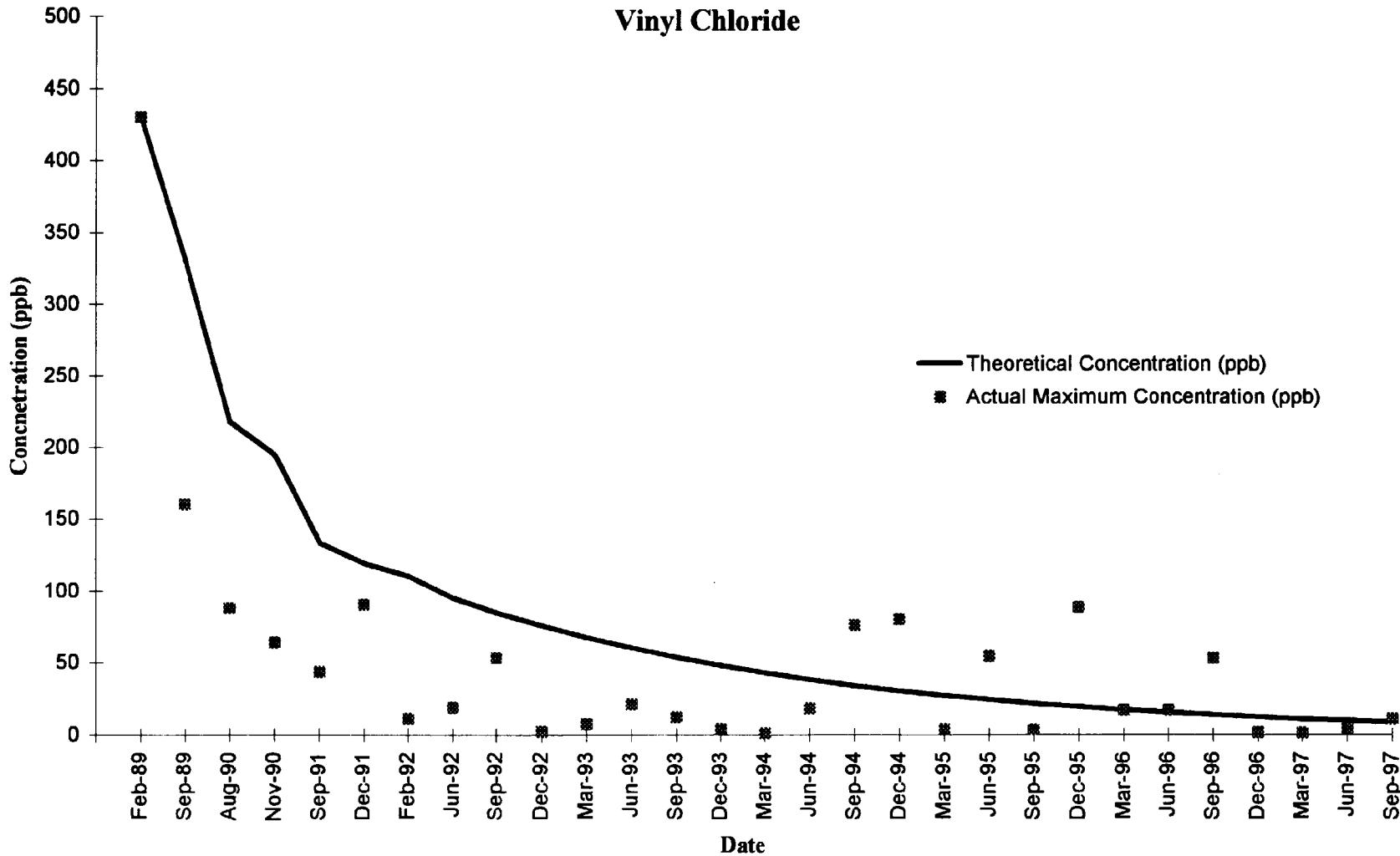
**Figure 5**  
**Theoretical Attenuation vs Actual Concentrations**  
**Tetrachloroethene (PCE)**



**Figure 6**  
**Theoretical Attenuation vs Actual Concentrations**  
**Trichloroethene (TCE)**



**Figure 7**  
**Theoretical Attenuation vs Actual Concentrations**  
**Vinyl Chloride**



**Figure 8**  
**Least Squares Regression on Log Transformed Data**

